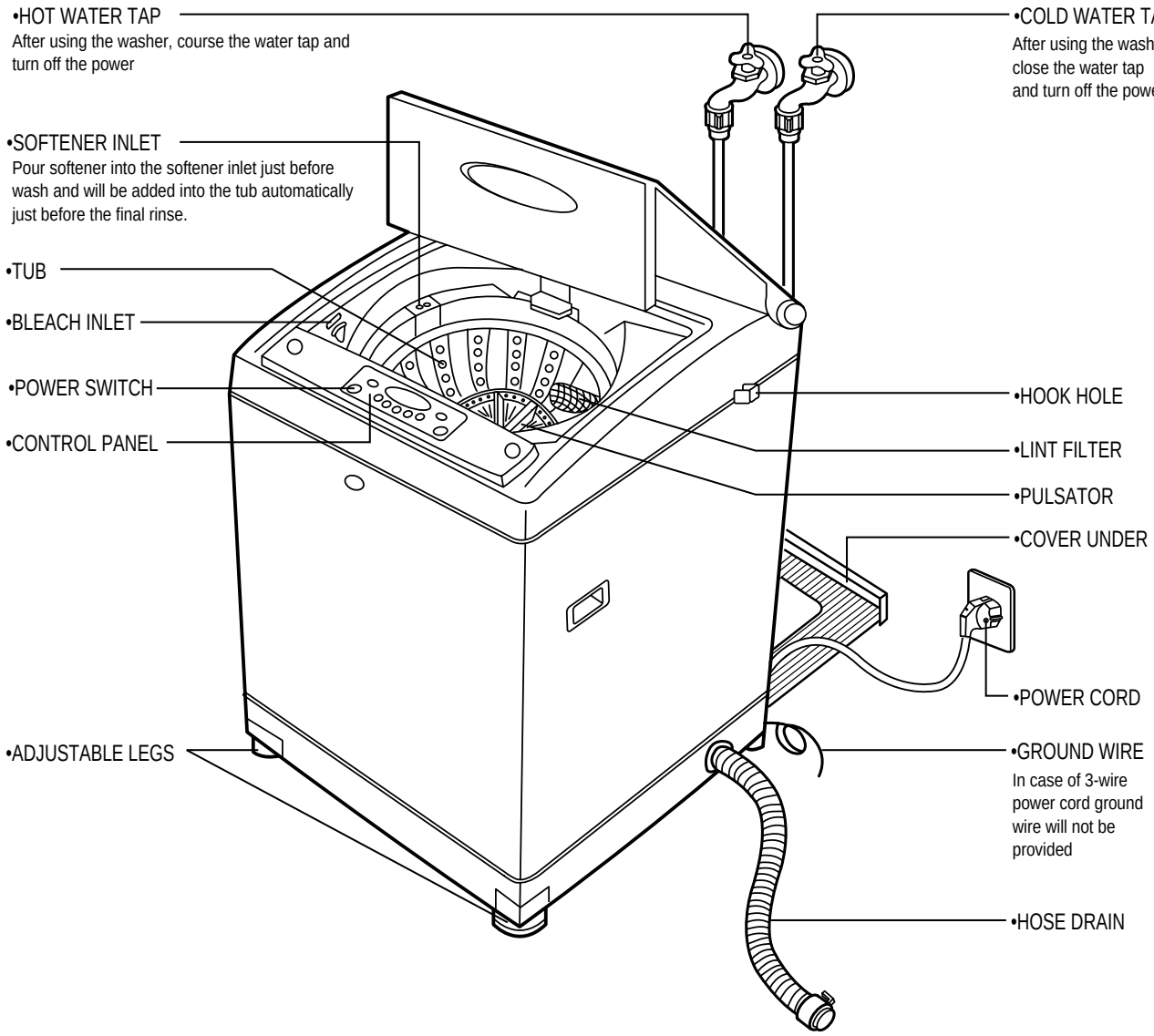
AUTO WASHER AUTO WASHER AUTO WASHER

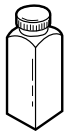
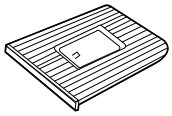
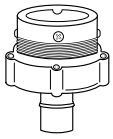
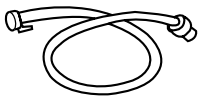
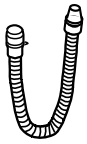
1. SPECIFICATIONS

NO.	ITEM		DWF-1089		DWF-9289		DWF-8089		DWF-7589	
1	POWER SOURCE		AVAILABLE IN ALL LOCAL AC VOLTAGE AND CYCLE							
2	POWER CONSUMPTION		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
			430W	480W	430W	480W	400W	460W	400W	460W
3	MACHINE WEIGHT	NON-PUMP	55Kg (GROSS : 64Kg)		54Kg (GROSS : 63Kg)		50Kg (GROSS : 60Kg)		49Kg (GROSS : 59Kg)	
		PUMP	56Kg (GROSS : 65Kg)		55Kg (GROSS : 64Kg)		51Kg (GROSS : 61Kg)		50Kg (GROSS : 60Kg)	
4	DIMENSION (WXHXD)		628 X 1005 X 673mm				610 X 962 X 655mm			
5	WASHING COURSE		FULL AUTOMATIC 8 COURSE (FUZZY, MEMORY, DRY, SILK, ECONOMICAL, STRONG, NIGHT, BLANKET)							
6	WATER CONSUMPTION		NORMAL 315L		NORMAL 304L		NORMAL 265L		NORMAL 259L	
7	WATER LEVEL SELECTOR		HIGH(96L), MID(81L) LOW(65L), SMALL(49L) E.SMALL(36L)		HIGH(93L), MID(78L) LOW(61L), SMALL(48L) E.SMALL(33L)		HIGH(82L), MID(70L) LOW(57L), SMALL(43L) E.SMALL(31.5L)		HIGH(80L), MID(68L) LOW(55L), SMALL(42L) E.SMALL(30.5L)	
8	OPERATING WATER PRESSURE		0.3kgf/cm^2~8kgf/cm^2 (2.94 N/cm^2~78.4N/cm^2)							
9	REVOLUTION PER MINUTE	60Hz	WASH : 145~160, SPIN : 750~800							
		50Hz	WASH : 130~145, SPIN : 700~750							
		SILK, DRY COURSE	WASH : 70 (60Hz), 60 (50Hz)							
10	PULSATOR		6 WINGS (Ø396mm)				6 WINGS (Ø376mm)			
11	WATER LAVEL CONTROL		ELECTRONICAL SENSOR							
12	ANTI NOISE PLATE		O		O		O		O	
13	GEAR MECHANISM ASS'Y		HELICAL GEAR FOR LOW NOISE							
14	LINT FILTER		O		O		O		O	
15	SOFTENER INLET		O		O		O		O	
16	FUNCTION FOR SOAK WASH		O		O		O		O	
17	ALARM SIGNAL		O		O		O		O	
18	RESIDUAL TIME DISPLAY		O		O		O		O	
19	AUTO. WATER SUPPLY		O		O		O		O	
20	NEW WATER FLOW		WATER FLOW FOR ADJUST THE UNBALANCED LOAD							
21	ECONOMIC COURSE		O		O		O		O	
22	FUNCTION FOR BUBBLE		O		O		O		O	
23	AUTO RE-FEED WATER		O		O		O		O	
24	AUTO POWER OFF		O		O		O		O	

2. STRUCTURE OF THE WASHING MACHINE


•HOT WATER TAP
After using the washer, course the water tap and turn off the power
•COLD WATER TAP
After using the washer, close the water tap and turn off the power.
•SOFTENER INLET
Pour softener into the softener inlet just before wash and will be added into the tub automatically just before the final rinse.
•TUB
•BLEACH INLET
•POWER SWITCH
•CONTROL PANEL
•HOOK HOLE
•LINT FILTER
•PULSATOR
•COVER UNDER
•POWER CORD
•ADJUSTABLE LEGS
•GROUND WIRE
In case of 3-wire power cord ground wire will not be provided
•HOSE DRAIN

Accessories

DRYTEN	COVER UNDER [OPTION]	WATER TAP ADAPTER
		
INLET HOSE	HOSE DRAIN	HOSE DRAIN CLAMP
		

Control Panel

It has micom sensor.
As the buttons are pressed, the lamps indicating the selection of you desired washing program will light up.

HOW TO USE SWITCH

- Press this Switch to turn the power ON or OFF .
  After turning OFF the power, wait for more than 3 seconds and then turn it ON again.

BUTTON FOR PROGRAM CANCEL

- It can be used to cancel the full-automatic course.
- When the button is pressed the display will be light down. If you want to wash, rinse or spin, you can press one of the button.

TIME DISPLAY

- The lamps easily indicate the option selection of washing program and process by letters.

START/HOLD BUTTON

- Operation and temporary stop are repeated as it is pressed it will be repeated¡ ‚Operation ¡ „ ¡ ‚Temporary stop ¡ ‚according to the one time pressing or two times pressing.
  When you want to change course in operating;
  - Press the S/H button.
  - Select the course that you want to change.
  - Press the S/H button again!

WASH TEMPERATURE SELECTOR

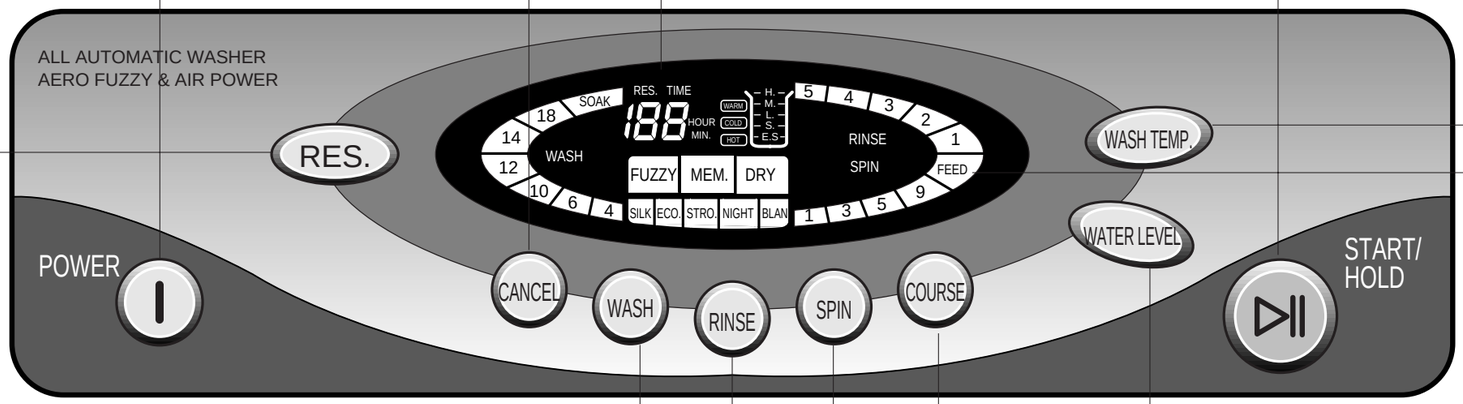
- It can be used to choose water temperature to be supplied.
- As the button is pressed, it will be repeated following sings ;
  COLD ¤A HOT ¤A WARM

TEMP.	:	TEMPERATURE
WARM	:	COLD+HOT WATER
COLD	:	COLD WATER
HOT	:	HOT WATER

- In case of the single valve model, there is no water

PRE-ENGAGEMENT

- It can be used to pre-engage time for wash



FEED

- In case of the pump model, there is no FEED function.

WASHING TIME

- It can be used to adjust washing time
- As the button is pressed, you'll see the repeated.

  4¤A6¤A10¤A12¤A14¤A18¤A SOAK.

RINSE TIME SELECTOR

- This button selects the number or times you want to rinse.
- As the button is pressed, it will be repeated

  * Non-pump Model
  1 time rinse ¤A 1 times feed
  ¤A 2 time rinse ¤A 2 times feed
  ¤A 3 time rinse ¤A 3 times feed
  ¤A 4 time rinse ¤A 4 times feed
  ¤A 5 time rinse ¤A 5 times feed

  * Pump Model
  1 time rinse ¤A 2 times rinse
  ¤A 3 times rinse ¤A 4 times rinse
  ¤A 5 times rinse

  Rinse : Normal Rinse
  Feed : Feed Rinse

SPIN TIME SELECTOR

- It can be used to change spin time.
- As the button is pressed, it will be repeated

  1¤A3¤A5¤A9 signs.

COURSE SELECTOR

- It can be used to select the full-automatic course.
- As the button is pressed, it will be selected following order:
  MEM.¤ADRY¤ASILK¤AECO.¤A STRO.¤ANIGHT¤ABLAN¤AFUZZY

COURSE		
MEM	:	MEMORY
DRY	:	DRY
SILK	:	SILK
ECO.	:	ECONOMICAL
STRO.	:	STRONG
NIGHT	:	NIGHT
BLAN	:	BLANKET
FUZZY	:	FUZZY

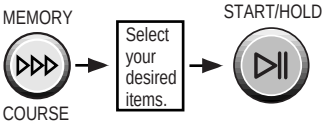
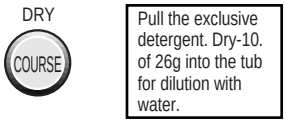
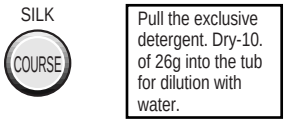
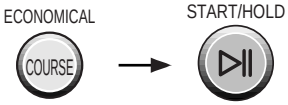
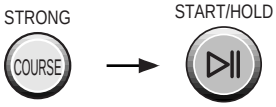
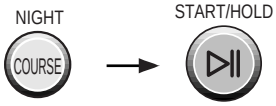
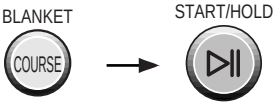
WATER LEVEL SELECTOR

- It can be used to adjust amount of water according to the size of the load to be washed.
- As the button is pressed. Water level is selected by
  H.¤AM.¤AL.¤AS.¤AE.S

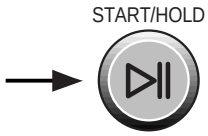
LEVEL.	:	WATER LEVEL
H.	:	HIGH LEVEL
M.	:	MIDDLE LEVEL
L.	:	LOW LEVEL
S.	:	SMALL LEVEL
E.S.	:	EXTRA SMALL LEVEL

5. WASHING PROCEDURE AND COURSE SELECTION

§ Full Automatic Course

¤ Pressing the Power Switch	¤Ł Selecting Course			
	Selecting Course	Kinds of the Laundry	Procedure to Press the Button	
POWER	FUZZY (SENSOR)	This selection is for general washing.		The washing processed by your desired items.
	MEMORY (USE ONLY FUZZY COURSE)	This selection is washing course by your desire. (The memory items are washing time, rinsing times, spin time, water level, water temperature)		
	DRY	This selection is effective for delicate clothese • Just follow the washing procedure. • 1.5Kg's limitation for one-time-wash.		
	SILK	This selection is effective for some clothes made of silk. • Do not put in the wash marked with dry-cleaning. • 1Kg's lb's limitation for one-time-wash.		
	ECONOMICAL	This selection is effective for water saving and energy saving.		
	STRONG	The selection is effective for blue-jean, climbing clothes, ruck-sack, sports wear(heavy dirty clothes), etc.		
	NIGHT	This selection is for a night-washing housewife who has no opportunity at day time.		
	BLANKET	This selection is effective for blanket, curtain, carpet, etc... •4 kg's limitation for one-time-wash.		

§ Partial Selections Among Wash, Rinse, or Spin

¤ Pressing the Power Switch	¤Ł Selecting Course		
	Washing Procedure	Procedure to Press the Button	
	Only Wash		
	Only Rinse		
	Only Spin		
	Wash & Rinse	Cancel the set program with pressing the button. *In case of canceling the program while the washer operates, press the “Start/Hold” button first, and then “Cancel” one.	Press the “S/H” button.
	Wash & spin		If once more pressed, the washer will be stopped.
	Rinse & Spin		For keeping Operation continuously to the set program, press another time.
	Wash ¤X Rinse ¤X Spin		

§ Dry Washing

This selection is effective for high-quality sweater, underwear, wool, etc

1 Press the power switch

2 Press the course selection button to adjust to “Dry”

3 Put the special detergent into the tub, and press the Start/Hold button

*After the height of water reachs the small level of water, the pulsator turns to solve detergent, and the water is continually supplied up to the mid level of water.

4 When the water level reachs the mid level, The buzzer sounds, Now put the clothes into the washing machine. The LED display lamp illuminates as shown bellow.

NOTES

- Appropriate volume of washes are two to three suits of clothes.
- Only cold water should be supplied for washing.
- The height of water is fixed to the mid level of water.

§ Silk Washing

This selection is effective for High-quality silk, stocking, silk curtain, etc

1 Press the power switch

2 Press the course selection button to adjust to “SILK”

3 Put the special detergent into the tub, and press the Start/Hold button

*After the height of water reachs the small level of water, the pulsator turns to solve detergent, and the water is continually supplied up to the mid level of water.

4 When the water level reachs the mid level, The buzzer sounds, Now put the clothes into the washing machine. The LED display lamp illuminates as shown bellow.

5 Shut the door and press the Start/Hold button.

NOTES

- Appropriate volume of washes are five suits of clothes.
- Only cold water should be supplied for washing.
- The height of water is fixed to the mid level of water.

6. FEATURE AND TECHNICAL EXPLANATION

Feature of the Washing Machine

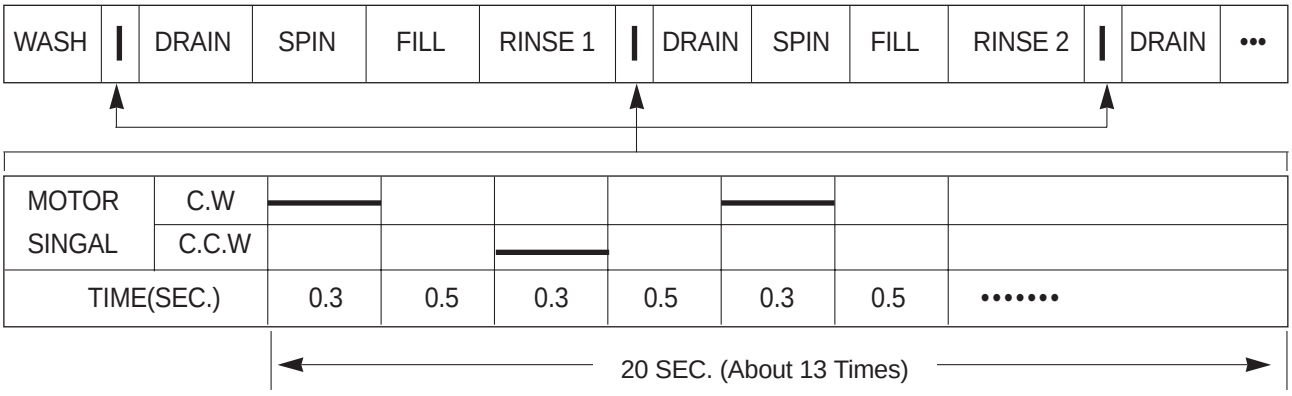
1 The first air bubble washing system in the world.
2 Quiet washing through the innovational low-noise design.
3 The wash effectiveness is much more enhanced because of the air bubble washing system.
4 The laundry detergent dissolves well in water because of the air bubble washing system.
5 The adoption of the water currents to adjust the unbalanced load.
6 One-touch operation system.

Water Current to Adjust the Unbalanced Load

It is a function to prevent eccentricity of the clothes after wash by rotating pulsator C.W and C.C.W for 20 seconds.(But, the DRY & SILK course have no operation of the water currents to adjust the unbalnced load.)

EFFECT
It reduces vibration and noise effectively while spinning.

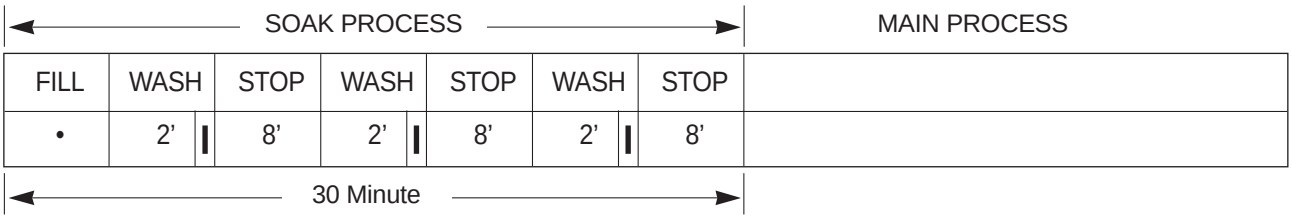
WATER FLOW



Function for Soak Wash

DISPLAY THE RESIDUAL TIME
When the SOAK WASH is selected, the total wash time increases because 30 minutes for soak process are added to the time of main process.

PROGRESS



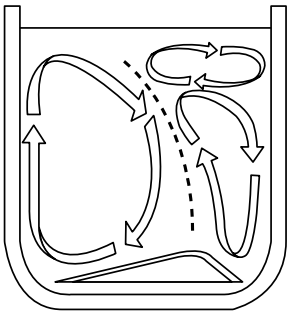
NOTES ' | ' mark indicates the operation of the water currents to adjust the unbalanced load.

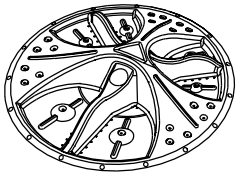
Automatic Water Supply System For Blanket Wash

The water level would be lowered because the blanket absorbs water at the beginning of washing. Therefore, after 30 seconds, the operation is interrupted to check the water level, and then the water is supplied again until the selected water level is reached.

Pulsator System

When the pulsator is rotated C.W or C.C.W at a high speed, it makes the cyclone water flow from the asymmetrically designed pulsator as shown below.





Asymmetrically designed pulsator makes the cyclone water fow, which get rid of the washing dead zone to increase the washing effect and reduce the entanglement of laundry.

Automatic Drainning time Adjustment

This system adjusts the draining time automatically according to the draining condition.

Draining condition	Good draining	The washer begins spin process after drainage.
	Bad draining	Drainining time is prolonged.
	No draining	Program is stopped and gives the alarm.

FUNCTIONAL PRINCIPLE

1 The micom can remember the time from the begining of drain to reset point when the pressure switch reaches to "OFF" point

Drain Time	Movement of the Program
Less than 10 minutes	Continue draining
More than 10 minutes	Program stops and gives the alarm with dE blinked on display lamp.

2 In case of continuous draining, residual drain time is determined by micom.
Draining time as a whole = D + 60

Residual drain time.
The time remembered by micom.

Softener Dispenser

This is the device to dispense the softener automatically by centrifugal force.

This is installed inside the auto-balancer.

FUNCTIONAL PRINCIPLE

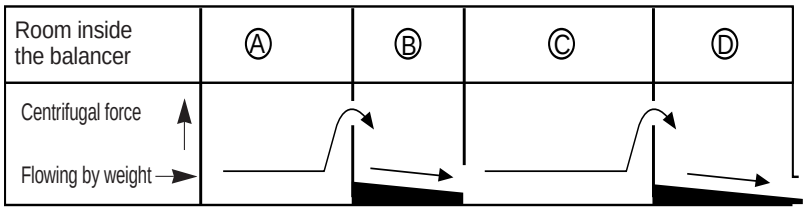
1 Softener stays in room (A) when poured into softener inlet.
2 Softener moves from (A) to (B) by centrifugal force during intermittent spin process.
3 Softener flows from (B) to (C) during rinse process next to intermittent spin.
4 Softener moves from (C) to (D) by centrigfugal force during second intermittent spin.

After spin process is finished, the softener is added into the tub through softener outlet.

FLOW OF THE SOFTENER

	Wash	Intermittent Spin	Hold	Intermittent Spin	Rinse	Spin
Normal	Centrifugal force		Flow in	Centrifugal force	Flow in	
Course	(A) →	(B) →	(C) →	(D) →	→	—

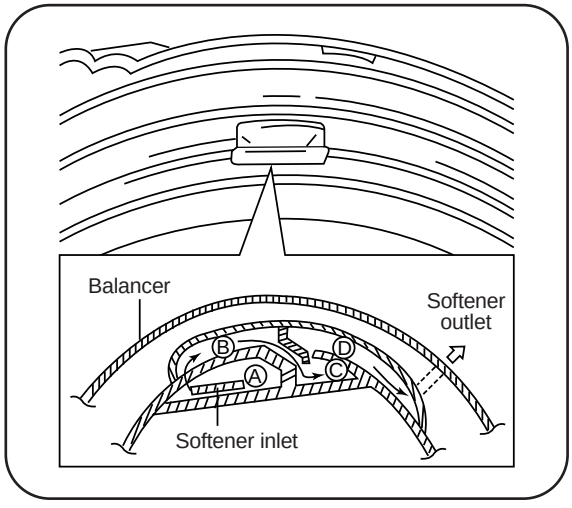
FLOW OF THE SOFTENER INSIDE OF THE BALANCER



NOTES Softener moves into the next room when r.p.m of the tub is more than 100 r.p.m.

HOW TO CHECK MOVEMENT

Pour a reasonable amount of “MILK” into softener dispenser and operate the washer with no load. In final rinse cycle, make sure that the milk is added into the tub through softener outler.

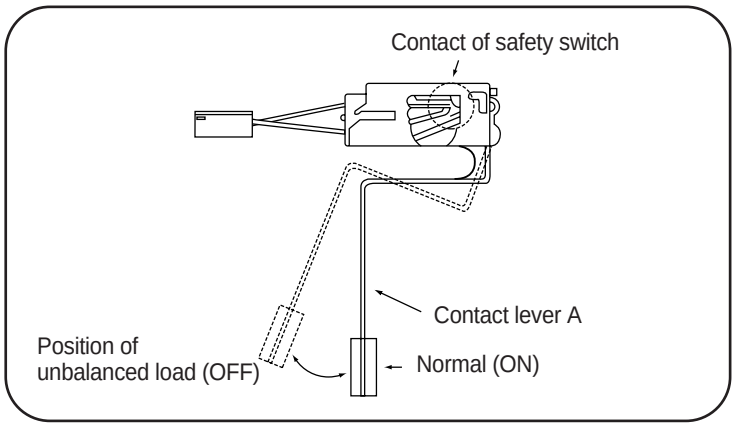


Automatic Unbalance Adjustment

This system is to prevent abnormal vibration during intermittent spin and spin process.

FUNCTIONAL PRINCIPLE

1 Always the safety switch contact is “ON” position.
2 In case that wash loads get uneven during spin, the outer tub hits the safety switch due to the serious vibration, and the spin process is interrupted.
3 In case that P.C.B. ASS’Y gets “OFF” signal from the safety switch, spin process are stopped and rinse process is started automatically by P.C.B. ASS’Y.
4 If the safety switch is operated due to the unbalance of the tub, the program is stopped and the alarm is given.



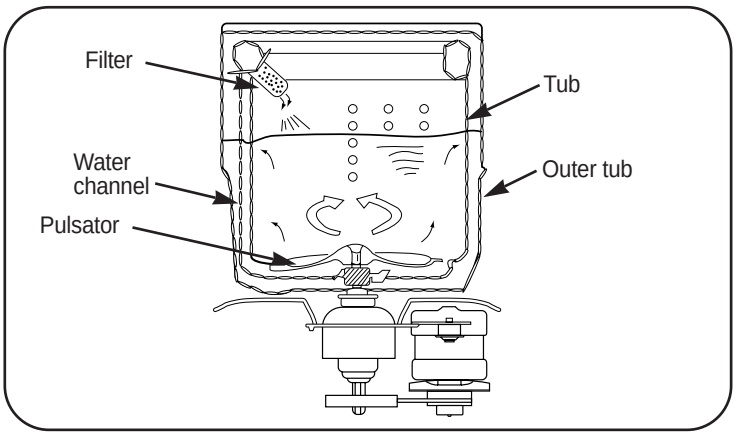
NOTES

The alarm finished when you close the lid after opening it. Check the unbalance of the wash load and the installation condition.

Circulating-Water Course and Lint Filter

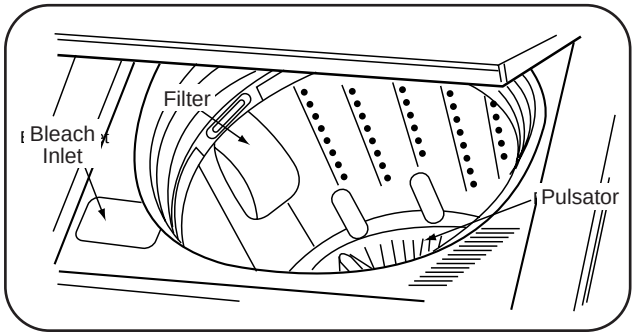
CIRCULATING-WATER

The washing and rinsing effects have been improved by adopting the water system in which water in the tub is circulated in a designed pattern.
When the pulsator rotates during the washing or rinsing process, the water below the pulsator vanes creates a water currents as shown in figure.
The water is then discharged from the upper part of the tub through the water channel. About 40 L/min. water is circulated at the ‘high’ water level, standard wash load and standard water currents.



Lint Filter

Much lint may be obtained according to the kind of clothes to be washed and some of the lint may also sticks to the clothes.
To minimize this possibility a lint filter is provided on the upper part of the tub to filter the wash water as it is discharged from the water channel. It is good to use the lint filter during washing.



HOW TO REPLACE LINT FILTER

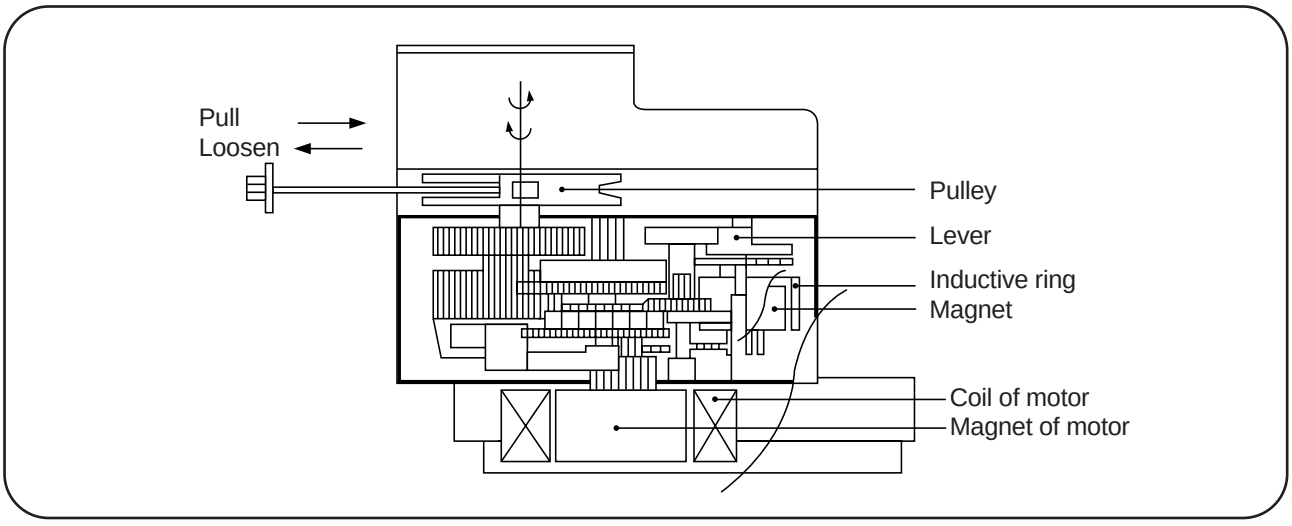
1 Pull the filter frame upward.
2 Turn the lint filter inside out, and wash the lint off with water.
3 Return the filter as it was, and fix the filter frame to the slot.

Residual Time Display

When the START/HOLD button is pressed, the residual time (min.) is displayed on the time indicator, and it will be counted down according to process.
When operation is finished, the TIME INDICATOR will light up 0 .

Drain Motor

STRUCTURE

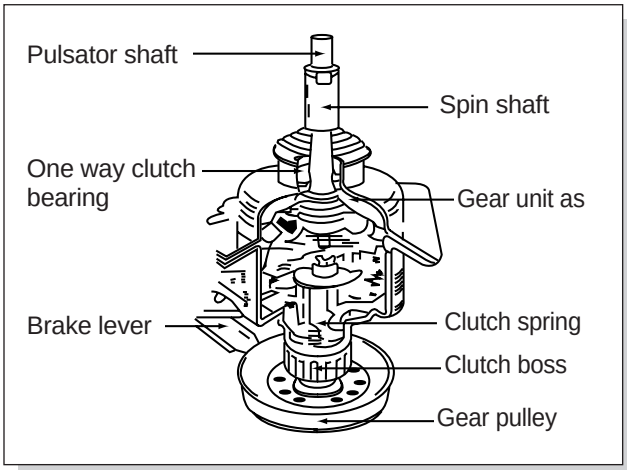


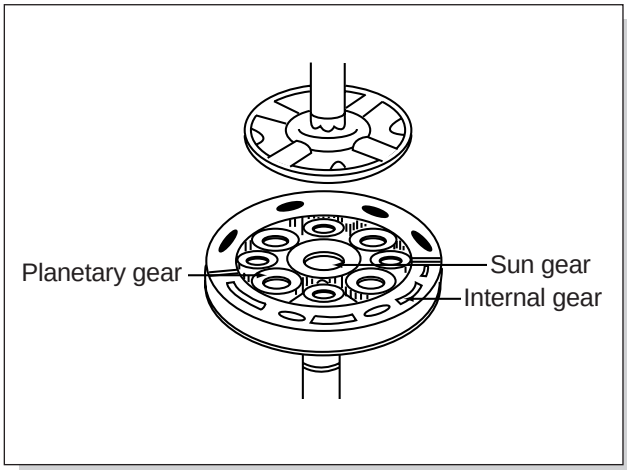
FUNCTIONAL PRINCIPLE

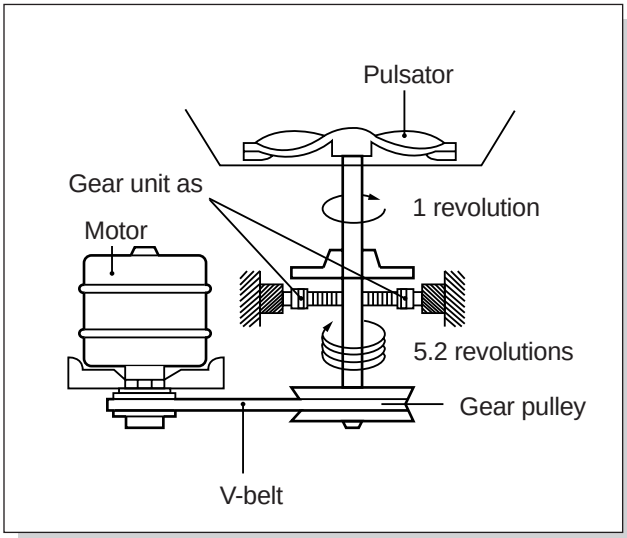
1 When the DRAIN MOTOR connected to the power source, the DRAIN MOTOR rotates with 900 r.p.m and revolves the pulley by gear assembly for reducing.
2 When the pulley is rotated, the pulley winds the wire to open the drain valve.
3 Therefore, rotation of pulley changed to the linear moving of wire.
4 The wire pulls the brake lever of Gear Mechanism Ass'y within 5 seconds.
5 After the wire pulled, gear assembly is separated from motor and condition of pulling is held by operation of the lever.
6 When the power is turned off, the drain valve is closed because the wire returns to original position.

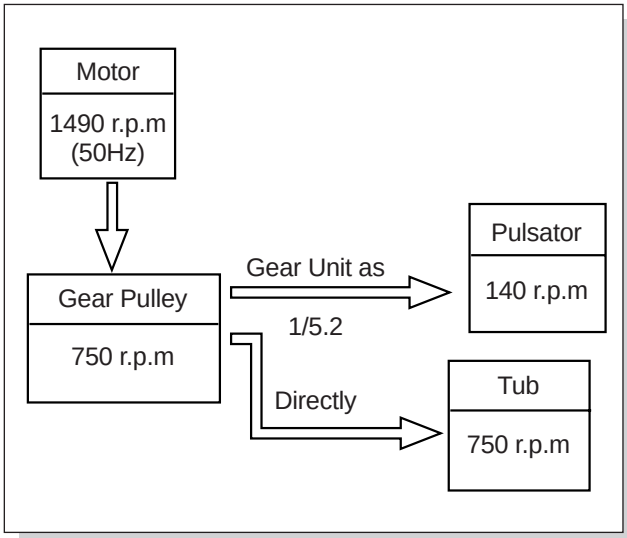
Gear Mechanism Ass'y

The proper water currents is made by the rotation of pulsator at a low speed (about 140 r.p.m) to prevent the damage to the small sized clothes.



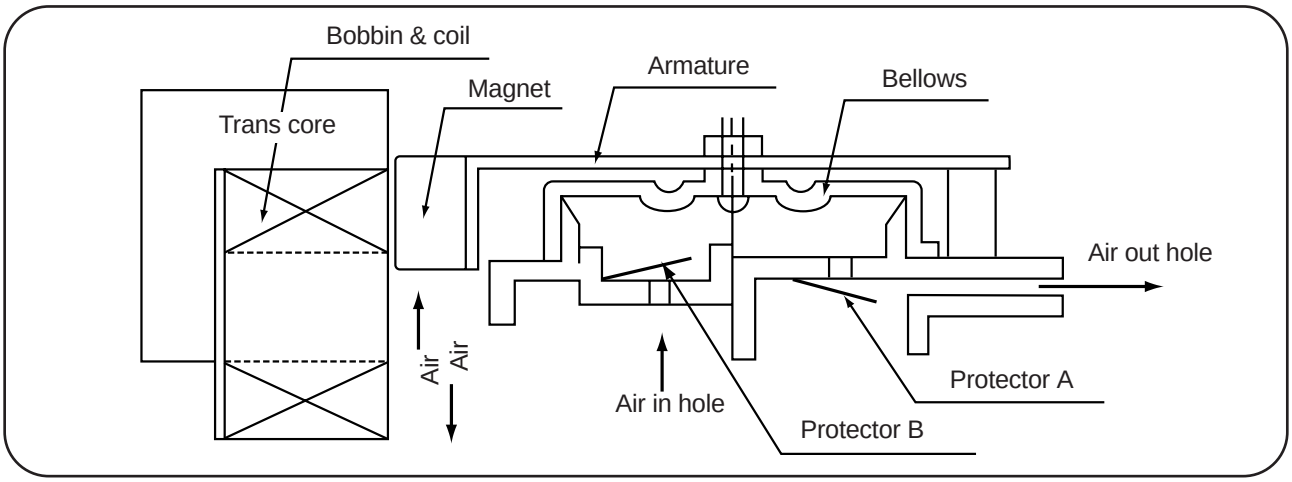






Principle of Bubble Generator

STRUCTURE



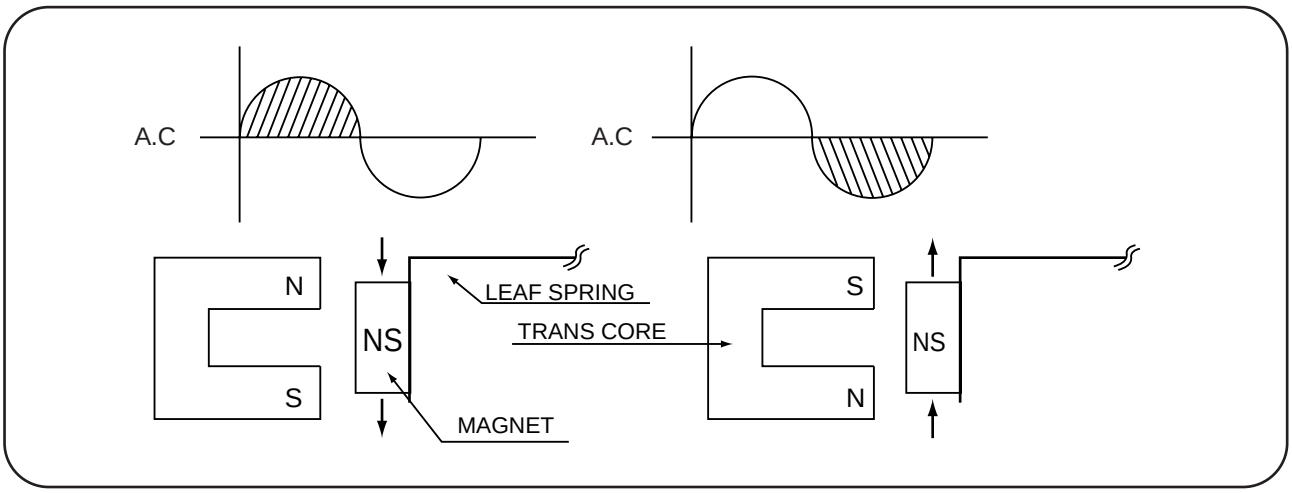
PRINCIPLE OF INTAKE & OUTLET OF THE AIR

INTAKE : ARMATURE moves up, and BELLOWS inhales the air. At the same time, protector B is open and A is close.

OUTLET : ARMATURE moves down, and BELLOWS exhausts the air. At the same time, protector B is close and A is opend.

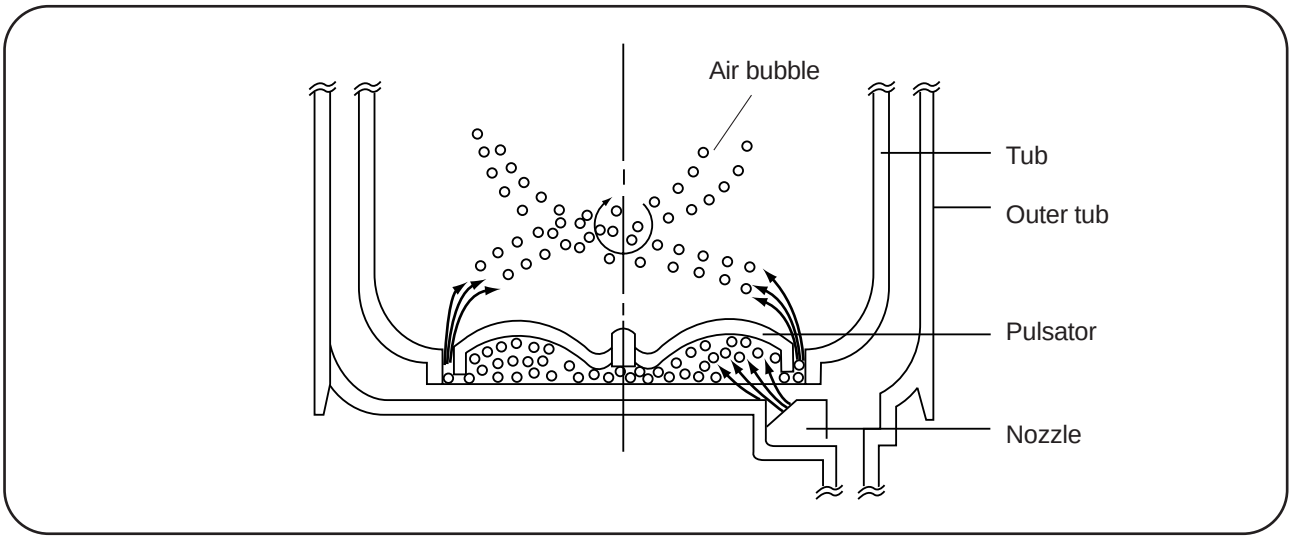
FUNCTIONAL PRINCIPLE OF TRANS & MAGNET

- The phase of A.C electric power changes to 60 cycle/second.
- The magnetic pole of trans core is changed by the change of the phase of A.C electric power.
- The core repeats push and pull (3600 times/min.) of the at mature magnet.



Functional Principle of Bubble Washing Machine

ACROSS SECTION



FUNCTIONAL PRINCIPLE

Bubble generator supplies the air from the bottom of outer tub to the inner space of pulsator, the air is dispersed by the rotation of pulsator. Air-bubble is created by the centrifugal force, and rises up.

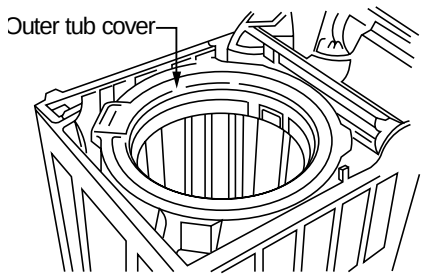
7. DIRECTIONS FOR DISASSEMBLY AND ADJUSTMENT

Warning

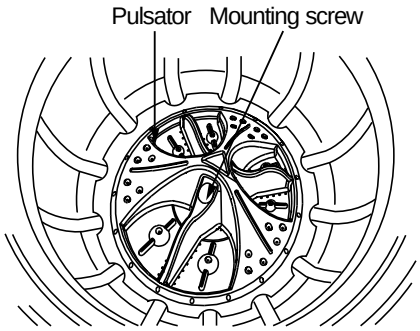
BEFORE ATTEMPTING TO SERVICE OR ADJUST ANY PART OF THE WASHING MACHINE, DISCONNECT THE POWER CORD FROM THE ELECTRIC OUTLET.

Gear Mechanism Ass'y Replacement

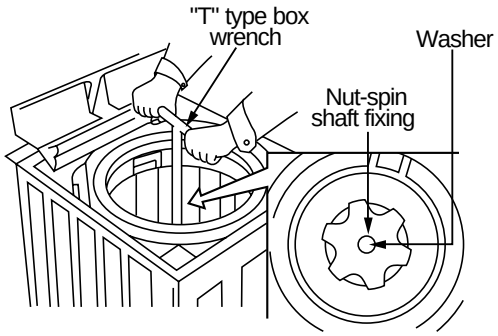
¡ Raise the top plate on the outer cabinet.
¡ Loosen four screws mounting outer tub cover and remove outer tub cover from the tub ass'y.



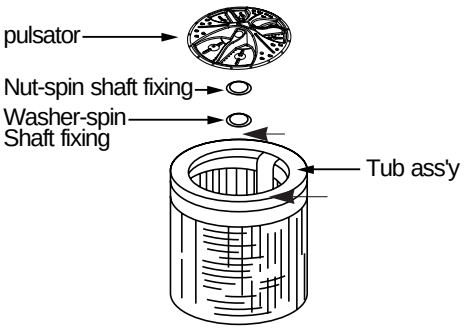
¡ Loosen the pulsator mounting screw and remove the pulsator.



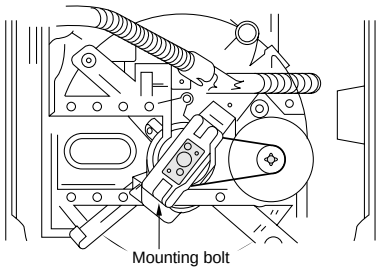
¡ Remove the spinner shaft flange nut by using 'T' type box wrench.



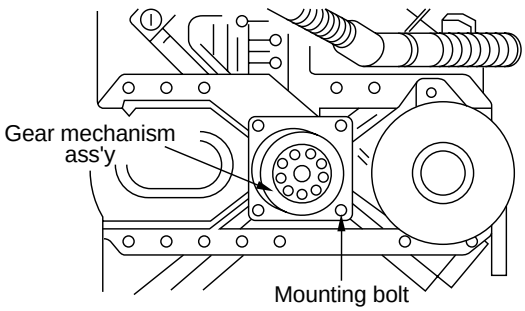
¡ Remove the tub ass'y.



¡ Lay the front of the washer on the floor.
¡ Remove four bolts mounting the plate-gear protect by using a box wrench and remove plate-gear protect.
¡ Remove the V-belt.



¡ Remove four bolts mounting the gear mechanism ass'y by using a box wrench.
¡ Pull out the gear mechanism ass'y.

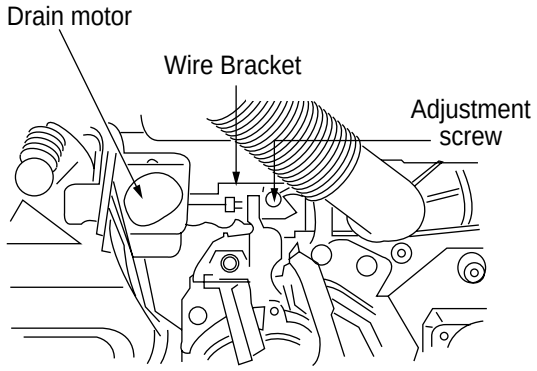


NOTES

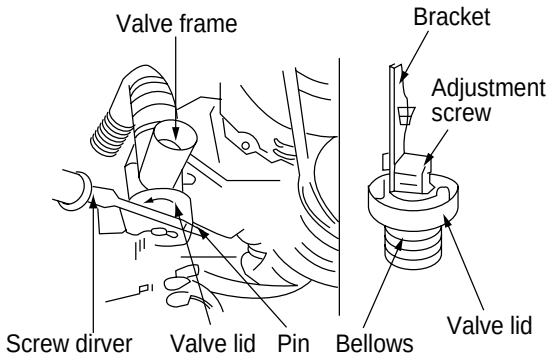
To assemble the gear mechanism ass'y, reverse the disassembly procedure.

Drain Motor and Valve

¡ Lay the front of the washer on the floor.
¡ Loosen the adjustment screw and four bolts mounting the drain motor.
¡ Take out the wire of drain motor from the bracket.

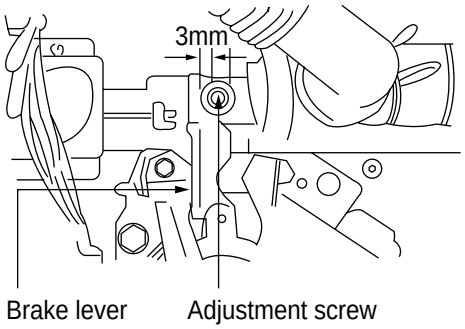


¡ Separate the drain motor from the bracket.
¡ Turn the valve lid by using screw driver as shown in figure and remove the valve lid from the valve frame.

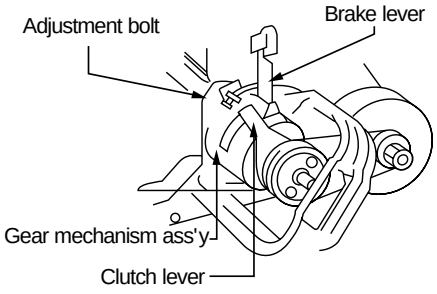


Brake Adjustment

¡ Loosen the adjustment screw fastening the bracket and place the adjustment screw to the brake lever as shown in figure.
¡ Tighten the adjustment screw completely.



¡ Loosen the adjustment bolt and turn the adjustment bolt until the end of the bolt touches to the brake lever.
¡ Tighten the lock nut and apply a small amount of paint-lock.



NOTES

1. The brake adjustment has been made at the factory, so that it is not to re-adjust. However, in case of insufficient brake operation, perform the upper procedure.
2. Overtightening of the adjustment bolt will cause poor brake performance.
3. Undertightening of the adjustment bolt will cause continuous bracking and, thereby, cause the problems of the motor during the spin cycle.

NOTES

1. When replace the P.C.B. ASS'Y do not scratch the surface of the P.C.B. ASS'Y.
2. Disconnect the power cord from the electric outlet.

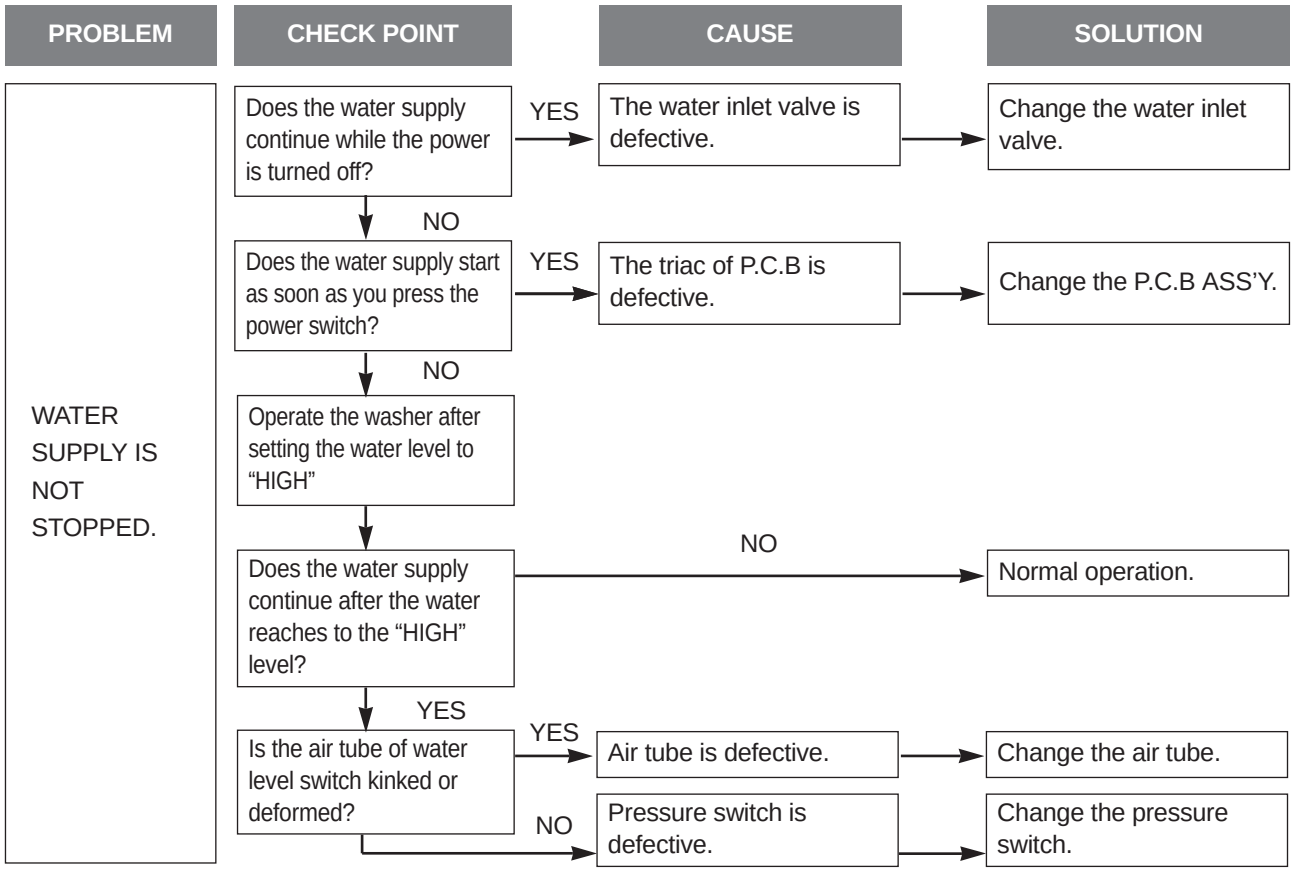
Concerning Water Supply

PROBLEM	CHECK POINT	CAUSE	SOLUTION
WATER IS NOT SUPPLIED.	Do you open the water tap?	NO	Open the water tap.
	Is the filter of the water inlet valve clogged with dirt?	YES	Clean the filter.
	Is the water pressure sufficient? (0.3~8 kgf/cm²)	NO	Increase the water pressure.
	Does the water inlet valve make operating sound?	NO — Water inlet valve is defective.	Change water inlet valve.
	Is the connector or the terminal connected properly?	NO — Improper connection of the connector or the terminal.	Connect the connector or the terminal properly.
	Is the output voltage of the P.C.B normal?	NO — P.C.B AS is defective.	Change the P.C.B AS.
		YES — Lead wire is defective.	Change the lead wires.

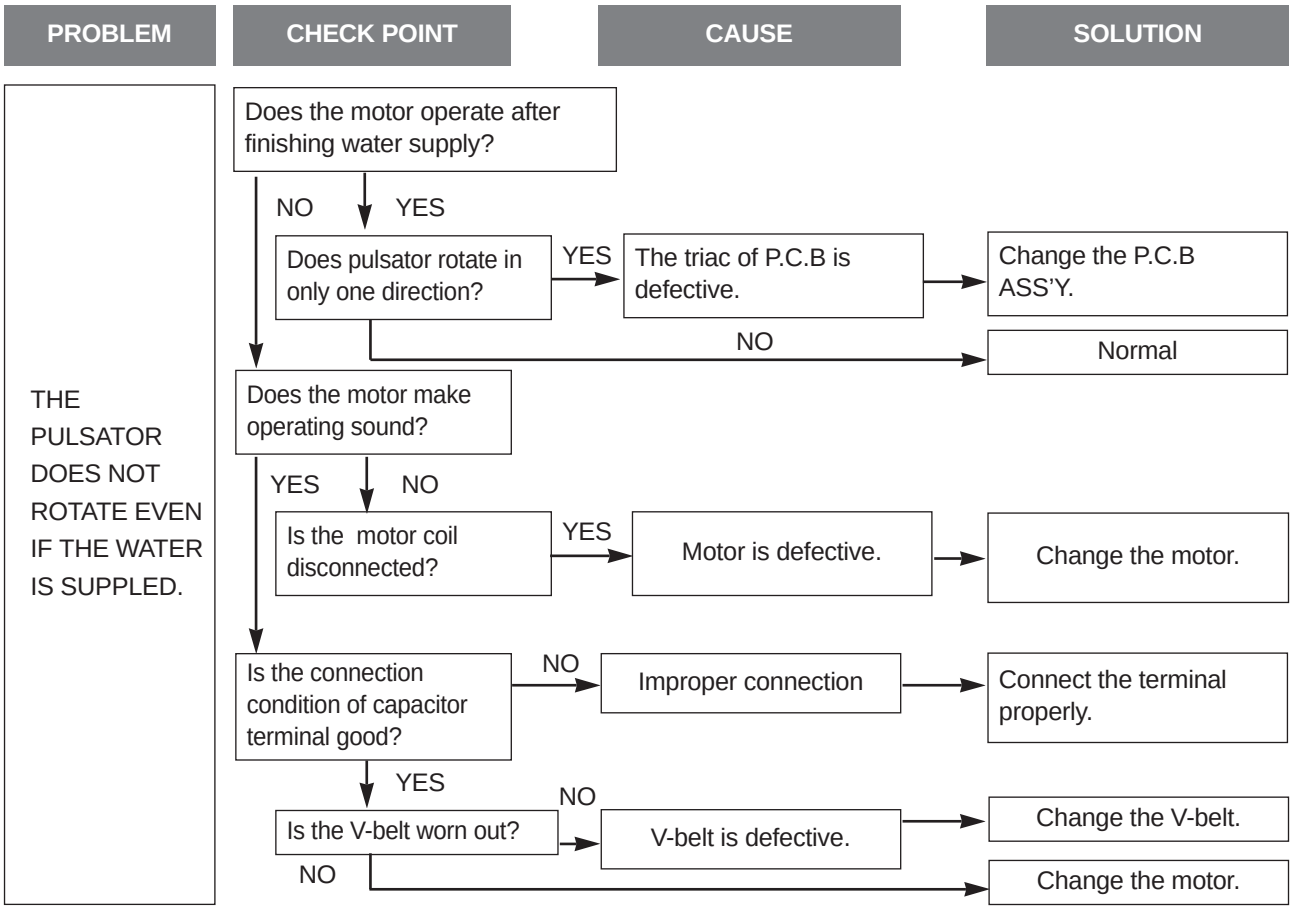
NOTE : Open the water tap fully and measure the flow rate.

Flow rate(ℓ/min.)	11.5	15.0	18.0	20.3	24.1	27.4
Water pressure (Kgf/cm²)	0.3	0.4	0.5	0.6	0.8	1.0

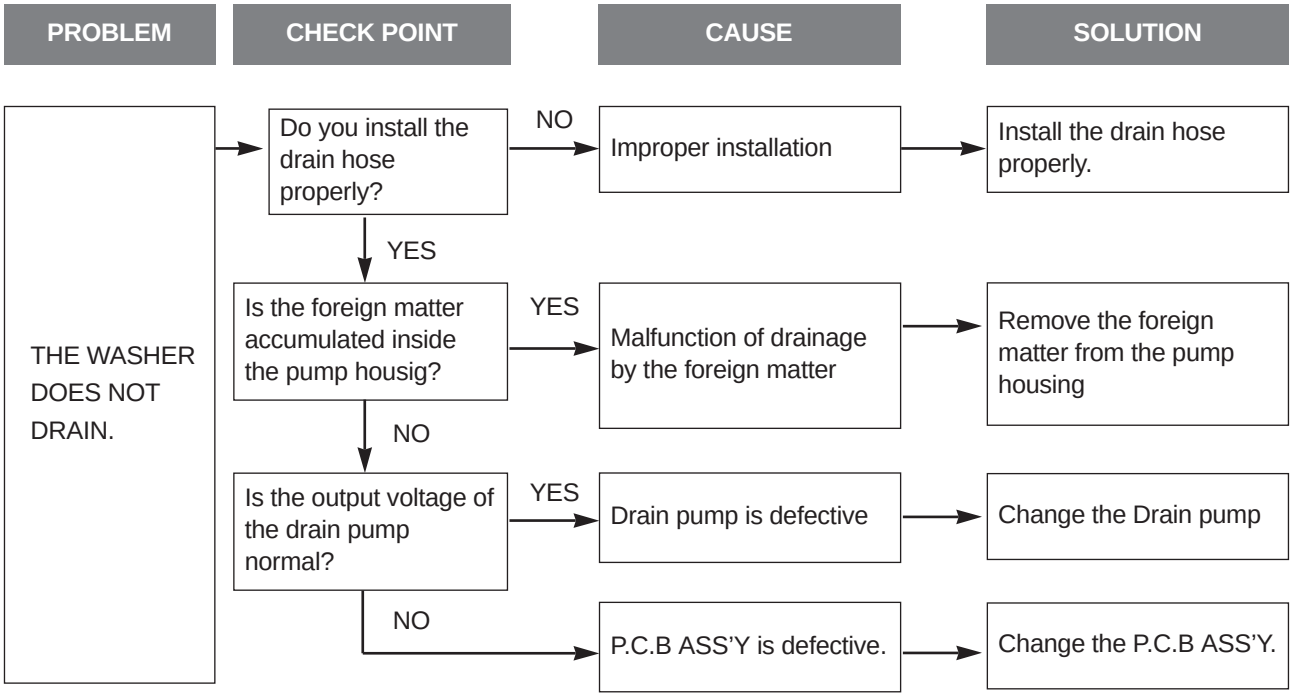
From the upper results, you know that the flow rate more than 11.5ℓ/min. is essential for water supply.


PROBLEM
CHECK POINT
CAUSE
SOLUTION
WATER SUPPLY IS NOT STOPPED.
Does the water supply continue while the power is turned off?
YES
The water inlet valve is defective.
Change the water inlet valve.
NO
Does the water supply start as soon as you press the power switch?
YES
The triac of P.C.B is defective.
Change the P.C.B ASS'Y.
NO
Operate the washer after setting the water level to "HIGH"
Does the water supply continue after the water reaches to the "HIGH" level?
NO
Normal operation.
YES
Is the air tube of water level switch kinked or deformed?
YES
Air tube is defective.
Change the air tube.
NO
Pressure switch is defective.
Change the pressure switch.

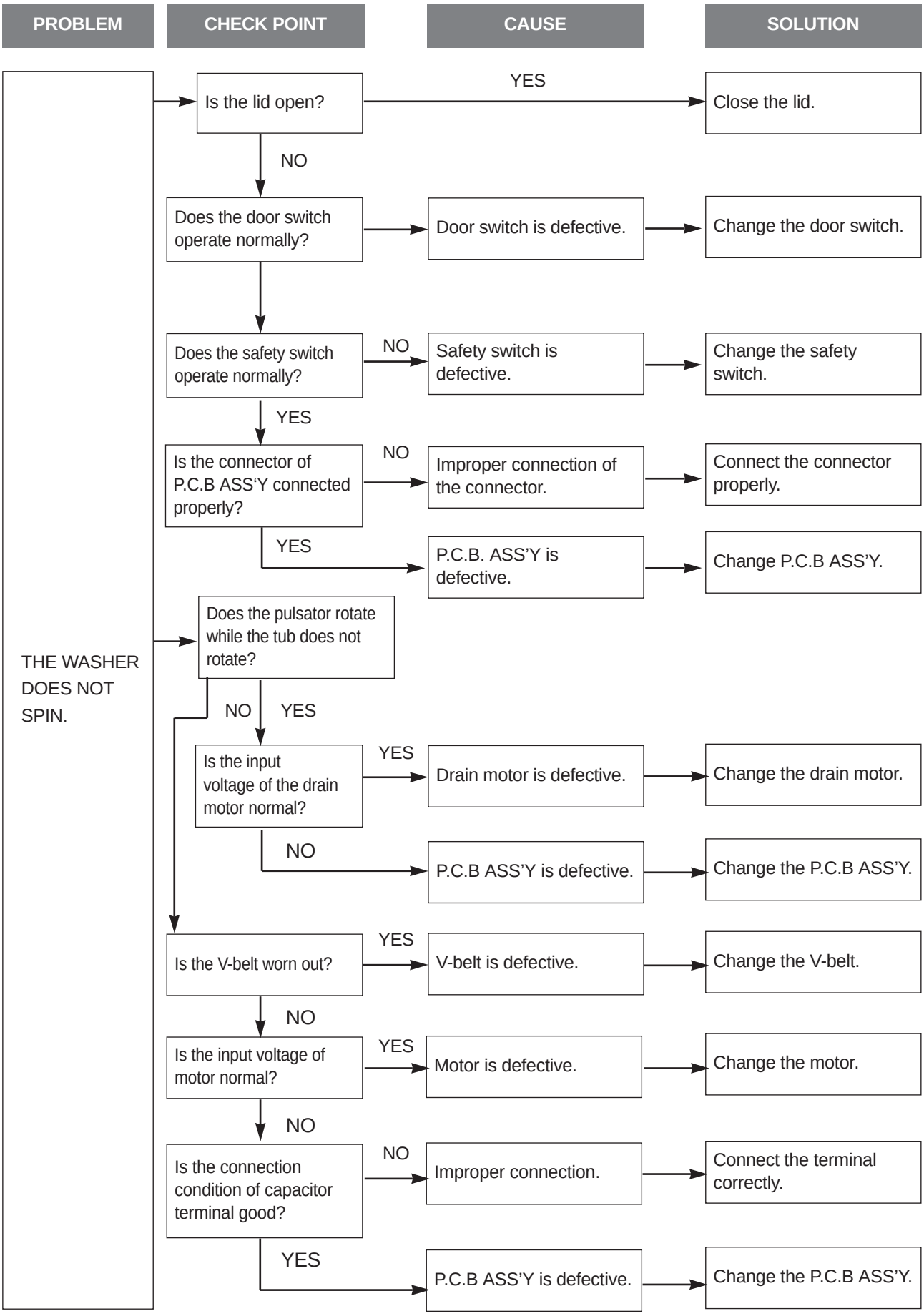
Concerning Washing



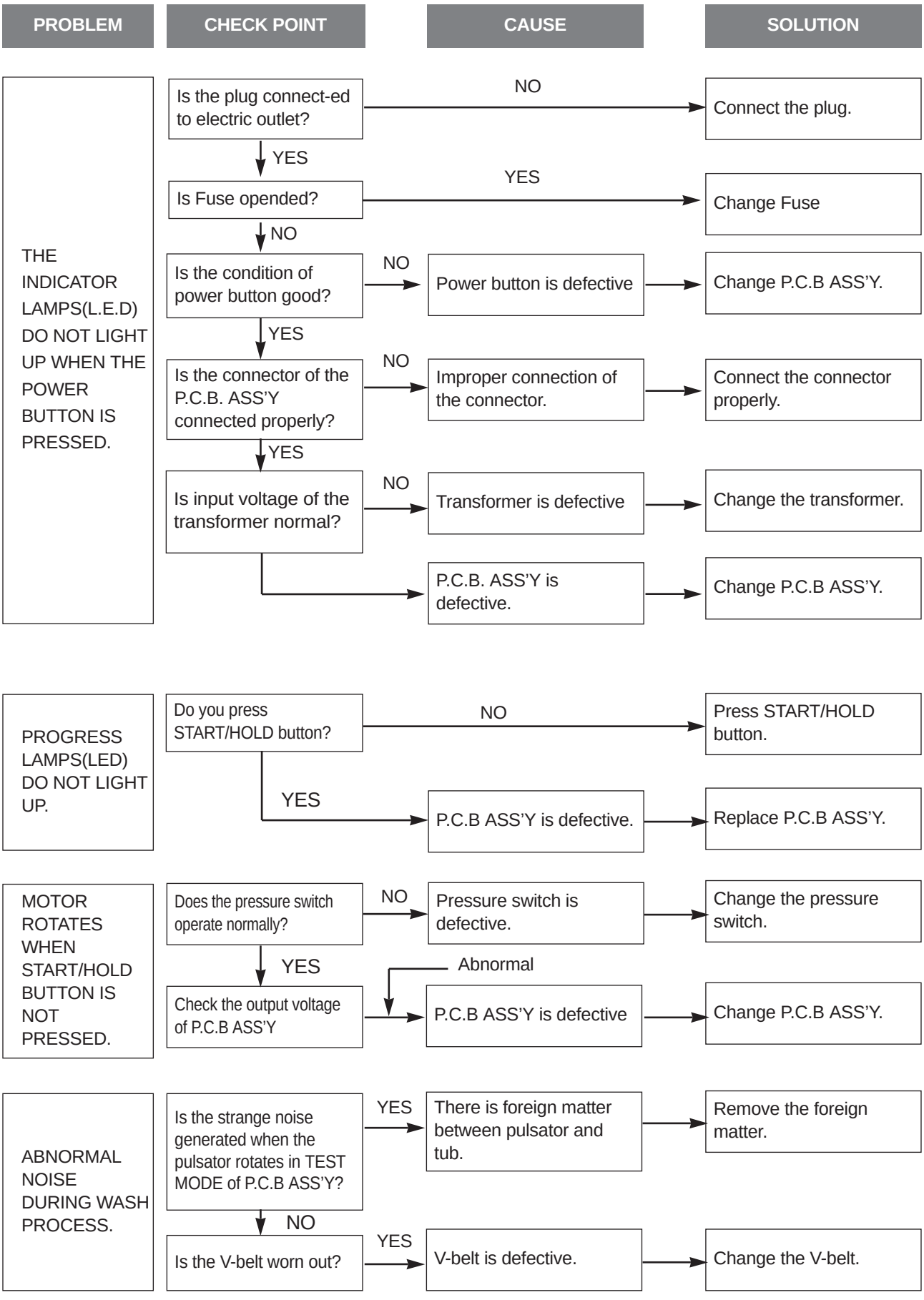
Concerning Draining



Concerning Spinning



Concerning Operation

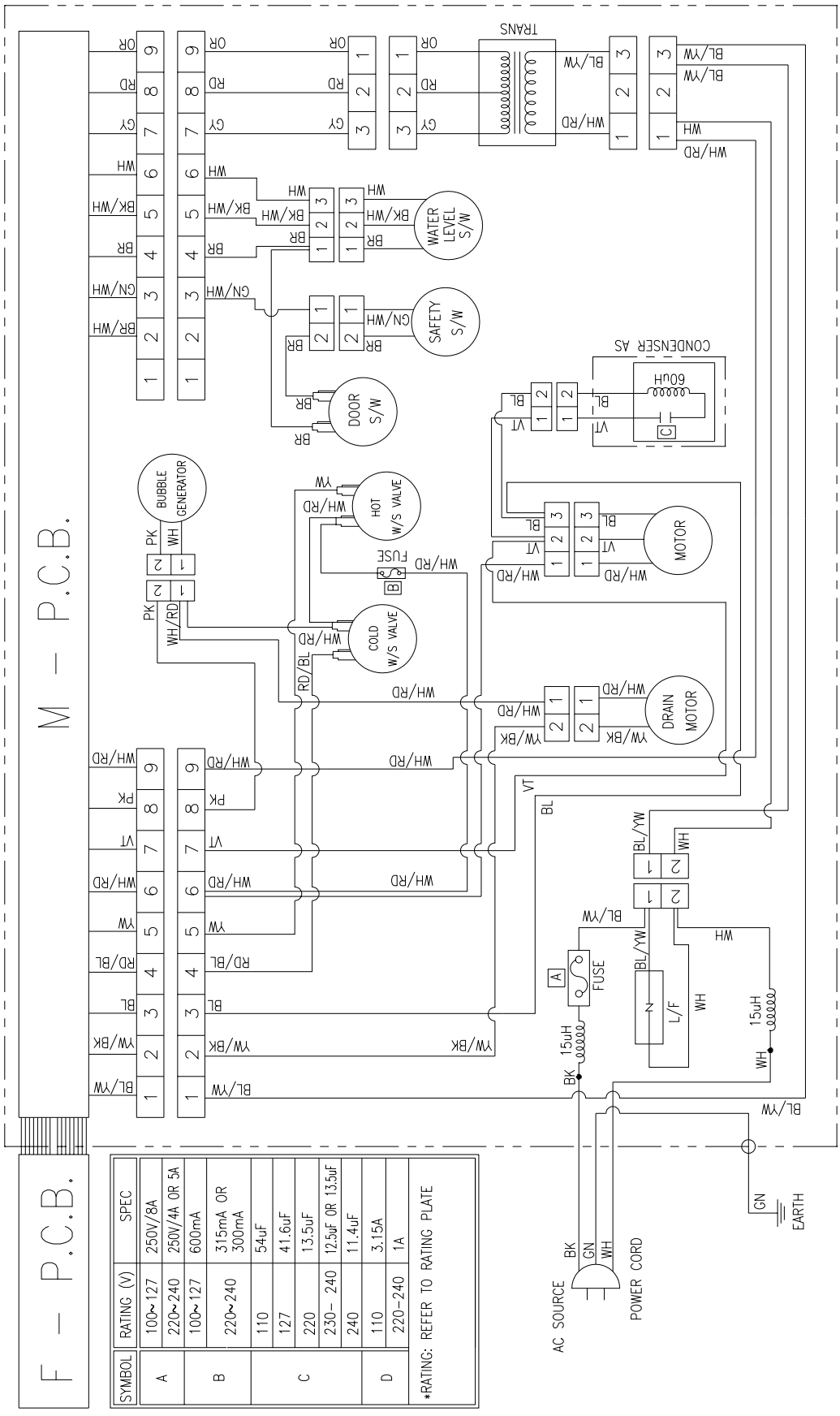


9. PRESENTATION OF THE P.C.B ASS'Y

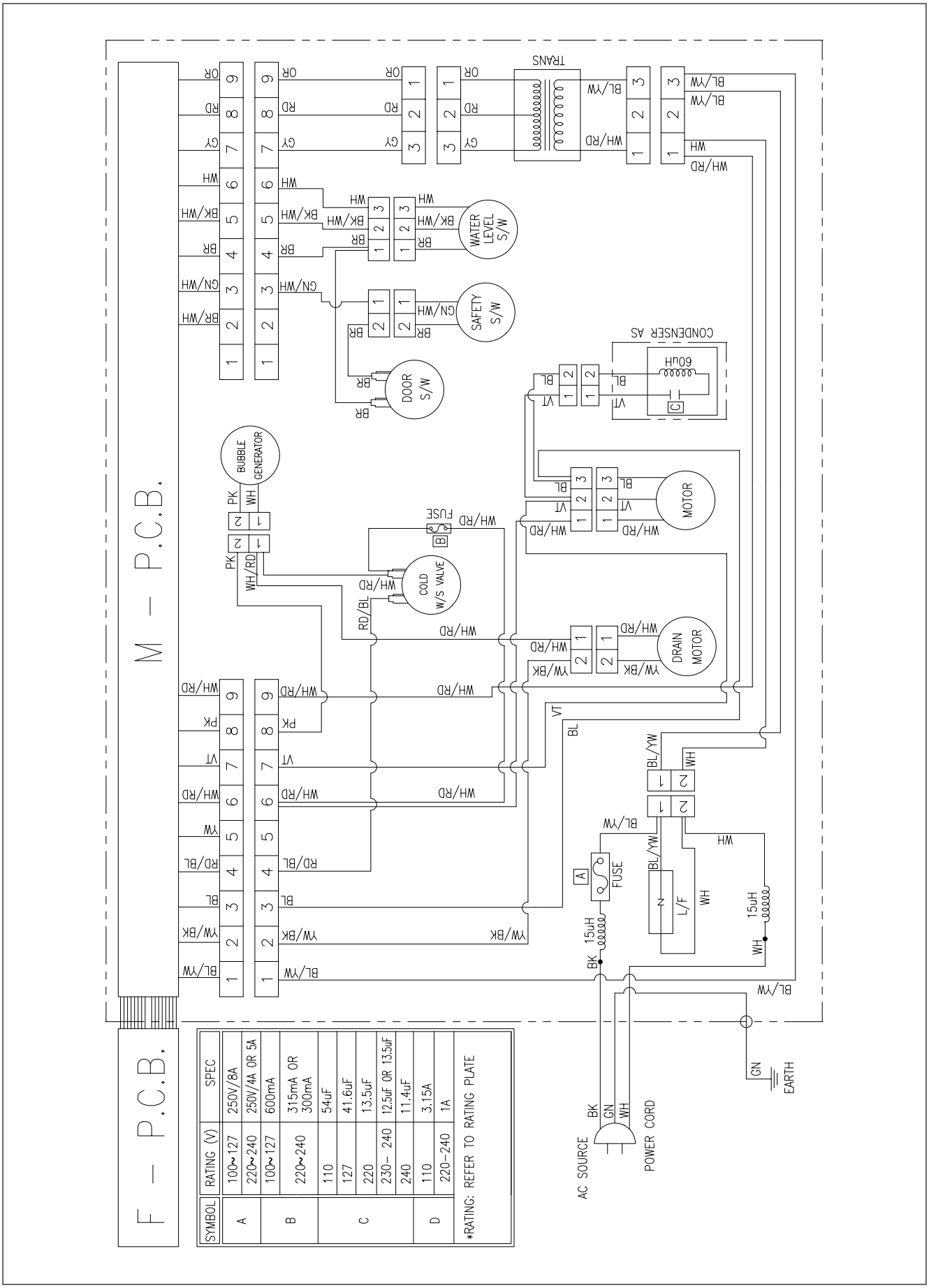
Concerning Error Message

MESSAGE	CAUSE	SOLUTION
	Improper installation of drain hose.	Install drain hose properly.
	The drain hose is blocked up by foreign matter.	Remove foreign matter from drain hose.
	Drain motor is inferior.	Change drain motor.
	The water tap is closed.	Open the water tap.
	The water inlet filter clogged.	Clean the water inlet filter.
	It passes over the 30 minutes, yet it doesn't come to assigned water level.	Check whether or not is comes to the assigned water level.
	Wash loads get uneven during spin.	Re-set wash loads evenly.
	Poor installation of the unit.	Proper installation.
	The lid is opened.	Close the lid.
	The safety switch is inferior.	Change the safety switch.
	The load sensing is inferior. After the load sensing operates about 20 seconds, the message is displayed during 0.5 second and water level is always fixed 'high'.	Change the P.C.B. ASS'Y.
	The water level sensing is inferior.	Check the water level sensor and the contact part of the connector.

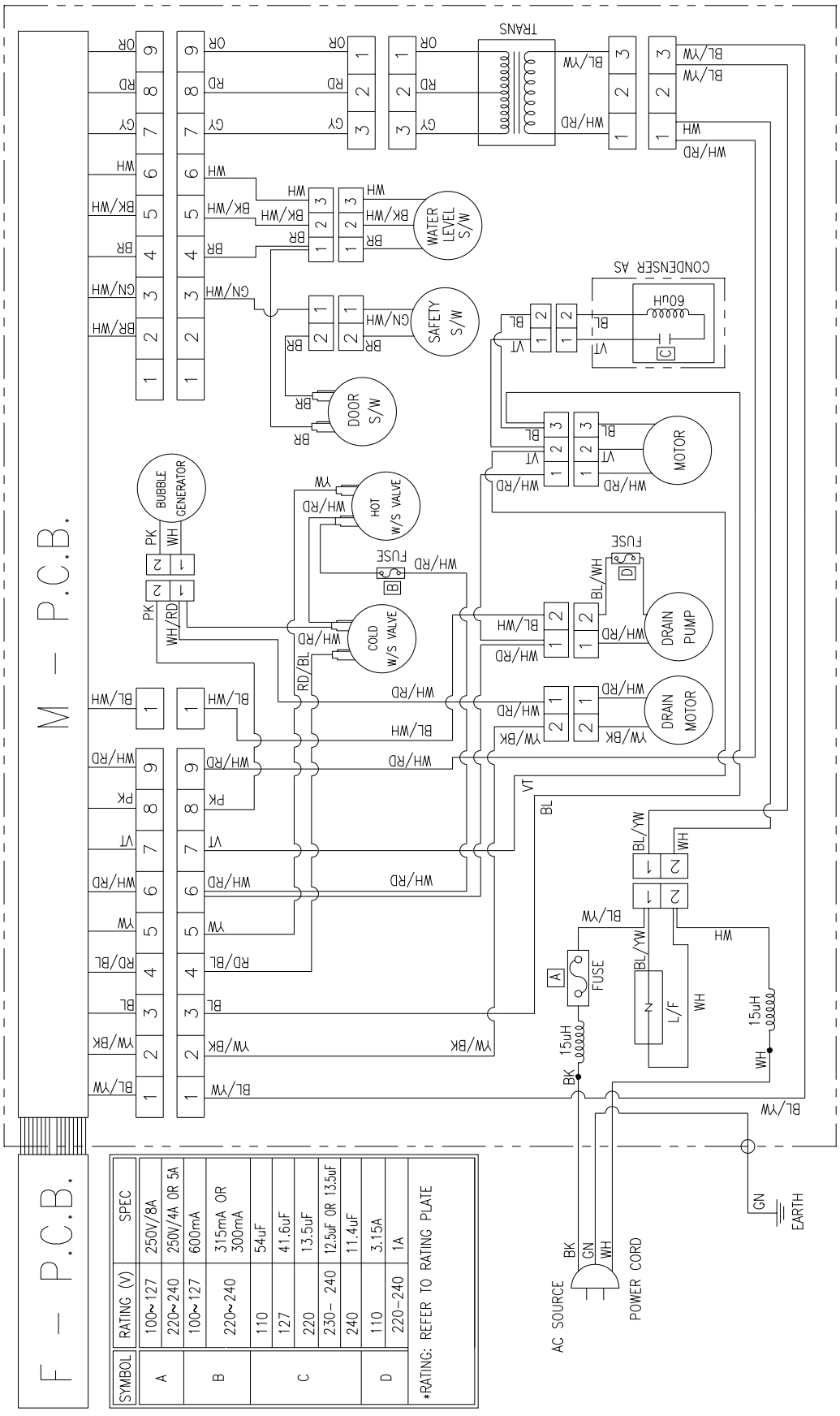
§ Wiring Diagram [Non-Pump]



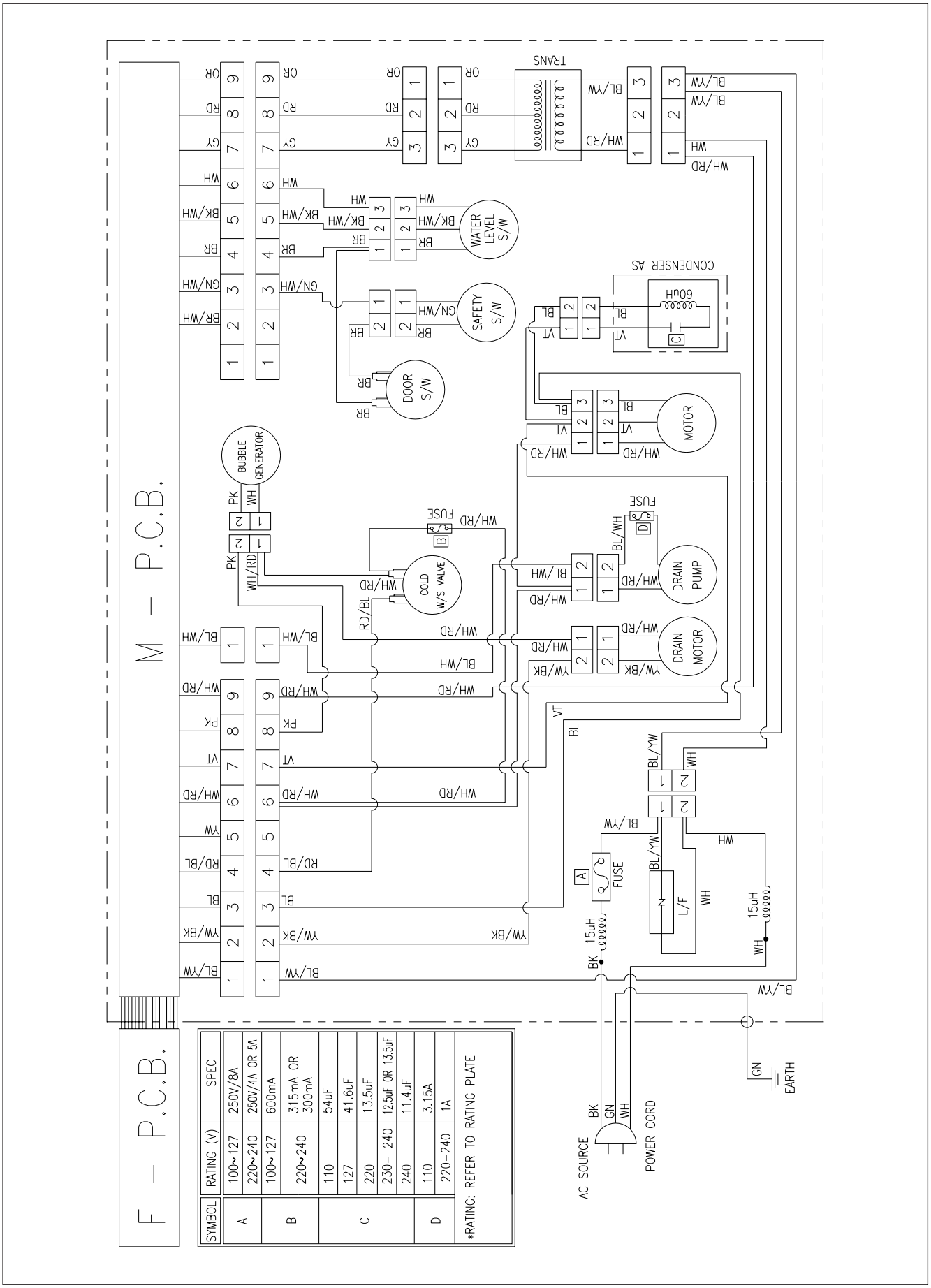
§ [Non-Pump, Single Valve]



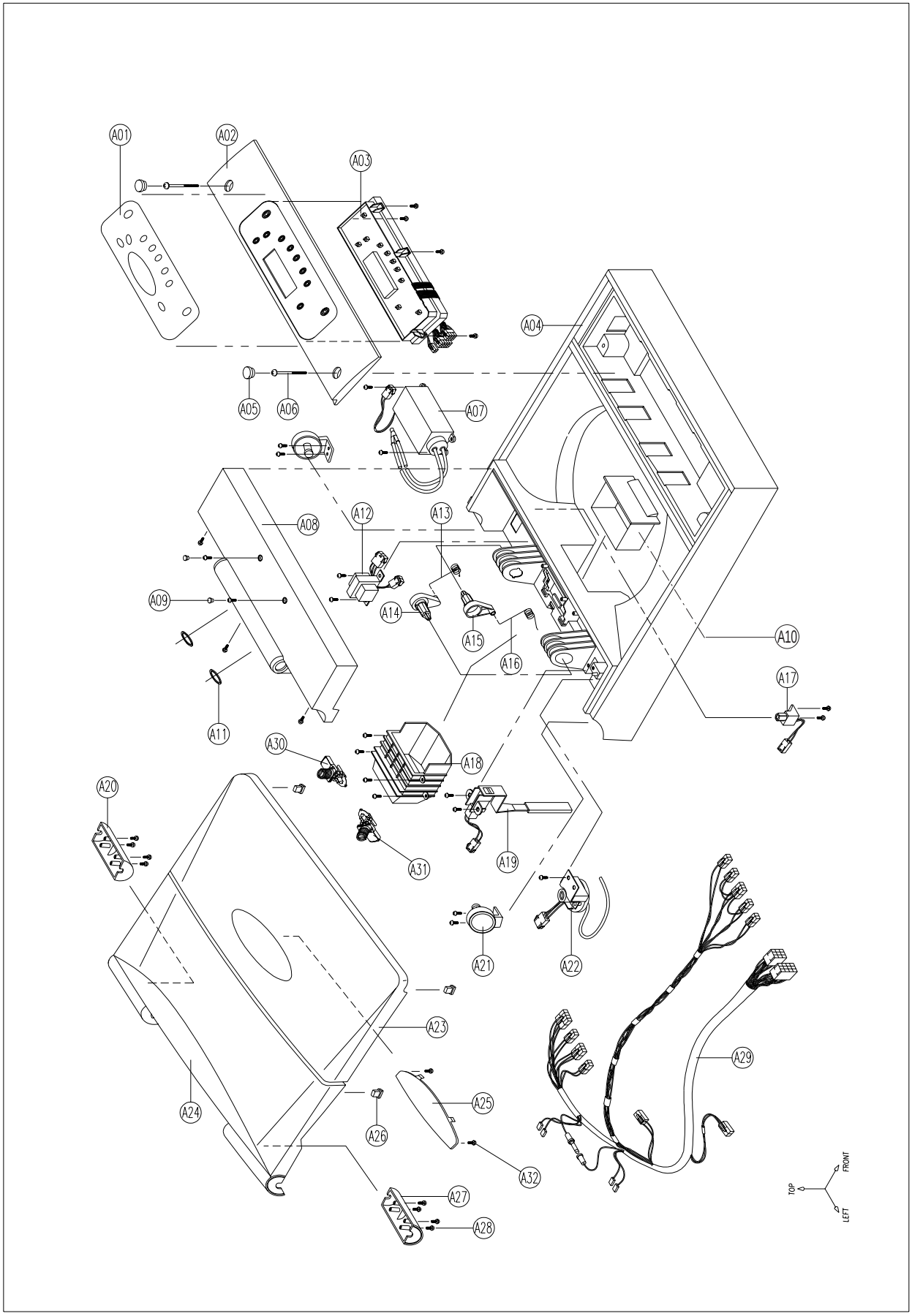
§ [Pump]

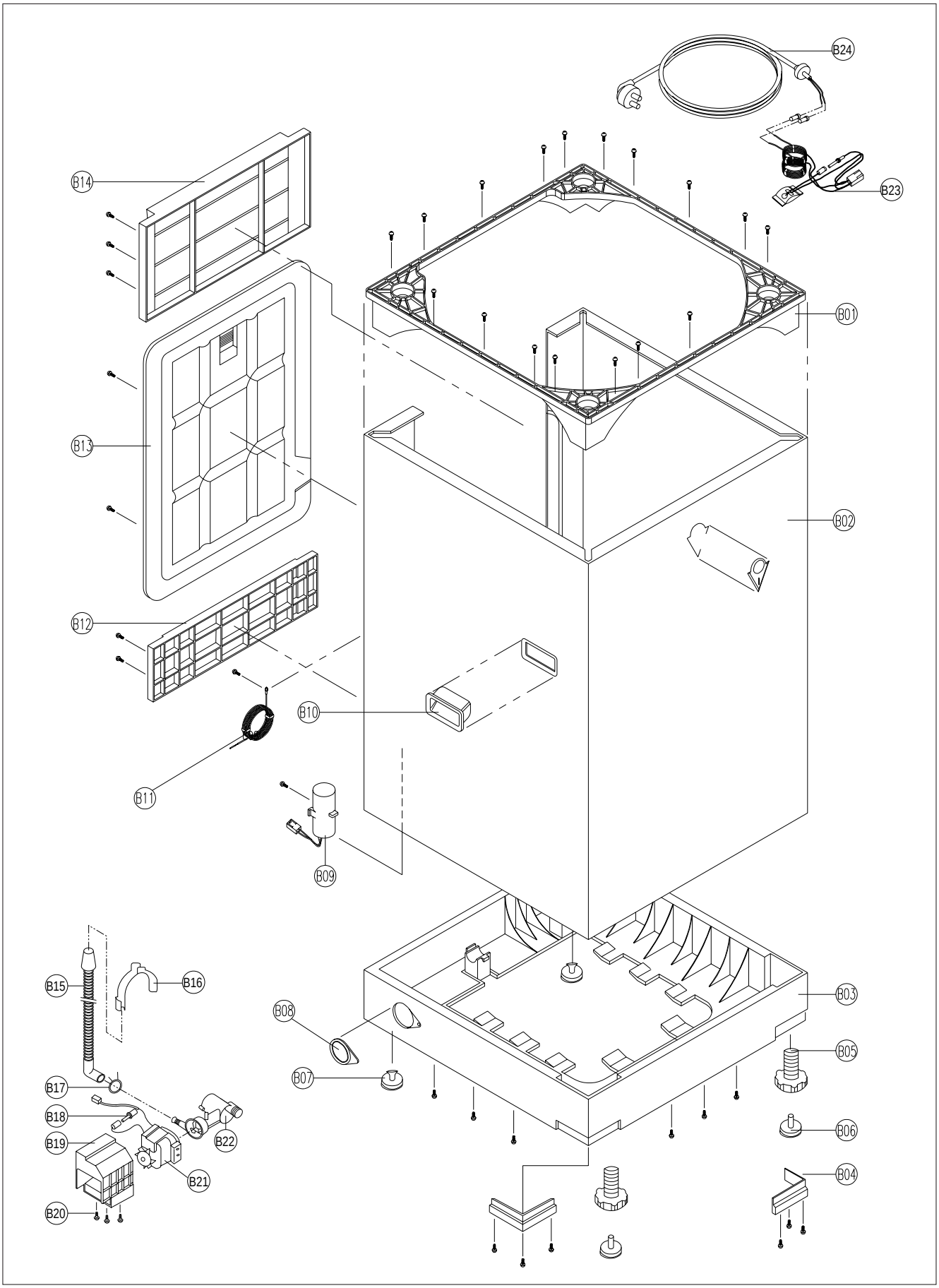

F – P.C.B.
M – P.C.B.
SYMBOL
SPEC
RATING (V)
A
250V/8A
100~127
250V/4A OR 5A
220~240
B
600mA
100~127
315mA OR 300mA
220~240
C
54uF
110
41.6uF
127
13.5uF
220
12.5uF OR 13.5uF
230~ 240
11.4uF
240
D
3.15A
110
1A
220~240
*RATING: REFER TO RATING PLATE
AC SOURCE
POWER CORD
EARTH
TRANS
WATER LEVEL S/W
SAFETY S/W
DOOR S/W
CONDENSER AS
60UH
MOTOR
HOT W/S VALVE
COLD W/S VALVE
BUBBLE GENERATOR
DRAIN PUMP
DRAIN MOTOR
FUSE
L/F
15uH

§ [Pump, Single Valve]



§ Parts Diagram




B24
B23
B14
B01
B13
B02
B12
B10
B11
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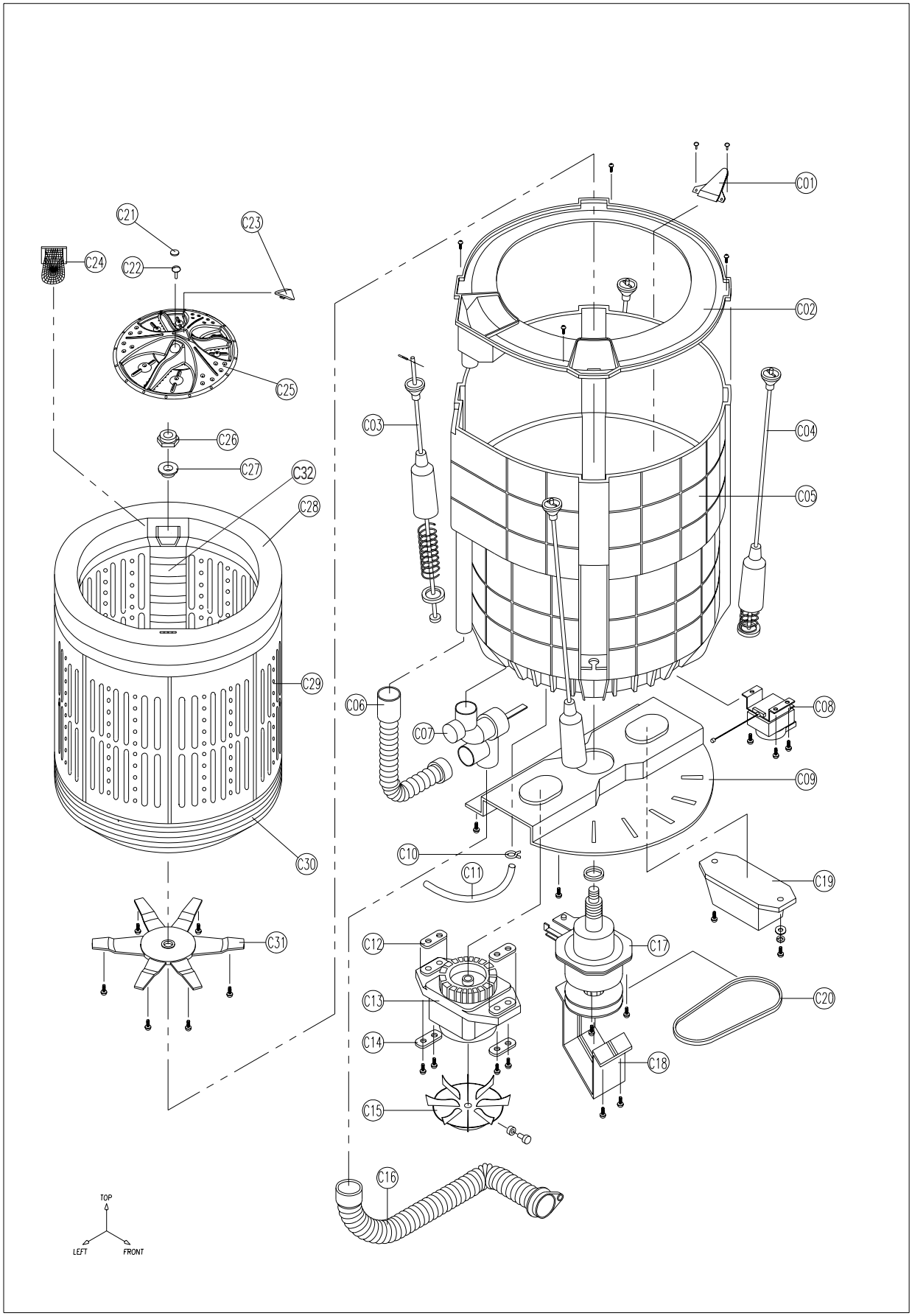
B04


C01
C02
C03
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C13
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C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
C30
C31
C32
TOP
LEFT
FRONT

§ Parts List

1. DWF-7589, DWF-8089

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
A01	3611611400	DECORATOR PANEL F	1	PC FILM 0.188T	
A02	3614215900	PANEL F	1	ABS	
A03	PRPSSWN500	P.C.B ASS¡Ÿ	1	DWF-1089	NON-PUMP
	PRPSSWN800			DWF-1089CTE	NON-PUMP
	PRPSSWN900			DWF-1089PT	PUMP
A04	3614504200	PLATE T	1	ABS	
A05	3610906700	CAP	2	ABS	
A06	3616001200	SPECIAL BOLT	2	T1 TRS 5x73	
A07	3618902101	BUBBLE PUMP ASS¡Ÿ	1	AC 110-130V/60Hz	
	3610014351			AC 220-240V/50Hz	
	3610028701			AC 220V/60Hz	
A08	3614202000	PANEL B	1	ABS	
A09	3610902600	CAP REAR	2	CR	
A10	3611105400	CASE DETERGENT	1	ABS	
A11	3612300110	GASKET VALVE	2	PVC-S	1EA;SINGLE VALVE
A12	5EP1048010	TRANS POWER	1	T5-V1 (AC 110-130V)	
	5EP1048020			T5-V1F(AC 110-130V)	FUSE
	5EP1048030			T5-V2 (AC 220-240V)	
	5EP1048040			T5-V2F(AC 220-240V)	FUSE
A13	3615103500	SPRING	1	SUS 304 D=2.0	RIGHT
A14	3612900400	HINGE LEFT	1	POLYACETAL	
A15	3612900300	HINGE RIGHT	1	POLYACETAL	
A16	3615103600	SPRING	1	SUS 304 D=2.0	LEFT
A17	3619007800	SWITCH DOOR AS	1	DWDS-01	
A18	3610400800	BASE DETERGENT	1	PP	
	3610400820			PP	SINGLE VALVE
A19	3619006720	SWITCH SAFETY	1	DC 15V 10mA\	
A20	3611404601	COVER R	1	ABS	RIGHT
A21	3610903000	CAP DOOR AS	2	80¡Ÿ, 88¡Ÿ	
A22	3619005110	SWITCH PRESSURE	1	KANBAYASHI(PS-D7)	
A23	3611715101	DOOR F	1	ABS	
A24	3611715201	DOOR B	1	ABS	
A25	3612602600	HANDLE DOOR	1	ABS	

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
A26	3611521700	CUSHION DOOR	4	CR	
A27	3611405101	COVER L	1	ABS	LEFT
A28	7121401608	SCREW	8	T2S PAN 4x16 SUS	
A29	3612725100	HARNESS ASS¡Ÿl	1	NON-PUMP	
	3612725110			PUMP	
	3612725120			NON-PUMP, SINGLE VALVE	
A30	3615403510	VALVE INLET COLD	1	AC 110-130V/60Hz	
	3615403710			AC 220-240V/50Hz	
	3615402010			AC 220V/60Hz	
A31	3615403630	VALVE INLET HOT	1	AC 110-130V/60Hz	0EA;SINGLE VALVE
	3615403830			AC 220-240V/50Hz	0EA;SINGLE VALVE
	3615402130			AC 220V/60Hz	0EA;SINGLE VALVE
A32	7121301208	SCREW	2	T2S TRS 3x12 SUS	
B01	3612200100	FRAME T	1	PP	
B02	3610805600	CABINET AS	1	PAINTING	
B03	3610303130	BASE U	1	PP	NON-PUMP
	3610303110			PP	PUMP
B04	-	-	-	-	
B05	3617702000	LEG ADJUST	2	PP	
B06	3612100300	FOOT	2	PP	
B07	4509D10020	FOOT	2	RUBBER BUTYL	
B08	-	-	-	-	
B09	3610076130	ASSY CONDENSER	1	54.0¥F+60¥H, L=470	110V
	3610076230			41.6¥F+60¥H, L=470	127V
	3610032630			13.5¥F+60¥H, L=470	220V
	3610031930			12.5¥F+60¥H, L=470	240V
B10	3612600700	HANDLE CABINET	2	PE-HD	
B11	3610068700	ASSY EARTH	1	50/0.18 GREEN ST710480-2	
B12	-	-	-	-	
B13	3611402800	COVER BACK	1	PP	
B14	3614504300	PLATE UPPER	1	PP	
B15	3613214200	HOSE DRAIN O AS	1	L=1000	NON-PUMP
	3613203101	HOSE AS	1	DWF-5230PN	PUMP
B16	3612502300	GUIDE DRAIN HOSE	1	PP	PUMP
B17	3611201000	CLAMP	1	HSW3,D2.6,MFZN,D36	NON-PUMP

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
	3611200200	CLAMP B	1	SW D2.6 ZN8-C	PUMP
B18	3618703700	TERMINAL PUMP	1	250V/1A	PUMP
	3618703720			125V/3.15A	PUMP
B19	3611405320	COVER PUMP	1	PP	PUMP
B20	7122501611	SCREW TAPPING	3	T2 TRS 5x16 MFZN	PUMP
B21	3963220330	MOTOR SHADED POLE	1	AC 110V/60Hz	PUMP
	3963821530			AC 120V/60Hz	PUMP
	3963322730			AC 220V/60Hz	PUMP
	3963513430			AC 220-240V/50Hz	PUMP
B22	3611901530	FILTER AS	1	DWF-5590DPNF, E-TYPE	PUMP
B23	3618912600	UNIT FUSE FILTER	1	AC 250V/4A, FERRITE	
	3618912630			AC 250V/5A, FERRITE	TUV
	3618912610			AC 250V/8A, FERRITE	
B24	3611301300	POWER CORD AS	1	3x0.75, 300x2, 300-RTML	ITALIAN 3PIN
	4508B81001			3x0.75, 300x2, 300-RTML	CP-2PIN
	450E181000			3x0.75, 300x2, 300-RTML	3-WIRE
	WAK42H762-			A VCTFK 2x0.75, 2.3M	FLAT 2PIN
	450KA81003			3x0.75, 300x2, 300-RTML	EUROPE-2PIN
C01	3618101400	NOZZLE BODY	1	PP	
C02	3611408500	COVER TUB O	1	PP	
C03	3619801100	SUSPENSION AS(A)	2	DWF-7581	
C04	3619801200	SUSPENSION AS(B)	2	DWF-7581	
C05	3618802620	TUB O	1	PP	NON-PUMP
	3618802630			PP	PUMP
C06	3613208900	HOSE OVERFLOW	1	PE-LD	NON-PUMP
C07	3615404000	VALVE DRAIN AS	1	DWF-5590D, VE	NON-PUMP
C08	450ED45020	MOTOR SYNCHRONOUS	1	AC 110-130V/60Hz	NON-PUMP
	3966320210			AC 220V/60Hz	NON-PUMP
	3966010120			AC 220-240V/50Hz	NON-PUMP
	450ED45040			AC 110-130V/60Hz	PUMP
	3966320240			AC 220V/60Hz	PUMP
	3966010140			AC 220-240V/50Hz	PUMP
C09	3610303000	BASE	1	SECEN 2.0Tx410x385	
C10	4500D08180	CLAMP	1	SWC	
C11	4500D08170	HOSE	0.62	ID=8.0, OD=12.0	

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
C12	3611502800	CUSHION DOWN	2	POM H=18mm	
C13	3964220400	MOTOR CONDENSER	1	AC 110V/60Hz	F34-C
	3964820510			AC 127V/60Hz	F36-C
	3610019700			AC 220/60Hz	F3A-C
	3964310510			AC 220V/50Hz	F32-1C
	3964610310			AC 240V/50Hz	F33-1C
C14	3611502000	CUSHION UPPER	2	POM	
C15	3618401400	PULLEY MOTOR AS	1	ADC-12, DS=10, DP=48.5	60Hz
	3618401420			ADC-12, DS=10, DP=53.0	50Hz
C16	3613218500	HOSE DRAIN AS	1	PE-LD/EVA, L=219.5	NON-PUMP
	3613212100	HOSE DRAIN I	1	PE-LD/EVA, L=184	PUMP
C17	3617301000	GEAR MECHAISM	1	GM-6685D, NTN	
C18	3618300100	PLATE GEAR PROTECTOR	1	SBHG 1.6T	
C19	-	-	-	-	
C20	4507D34020	BELT V	1	M20	50Hz, 60Hz
C21	3610906200	CAP PULSATOR	1	PP	
C22	4505E3203A	SC PULSATOR FIX AS	1	6x26.5 O-RING+SILOCK	
C23	3610906400	CAP	1	PP	
C24	3610085500	ASS¡Ÿ FILTER	1	PP(NYLON 74x130)	
C25	3619702900	PULSATOR AS	1	PULSATOR+INSERT	
C26	4509G83081	NUT-SPIN SHAFT	1	ZDC2 CU, NI COATING	
C27	4509L83070	SPECIAL WASHER	1	SUS304 T2.0 PI44	
C28	3610009900	BALANCER AS	1	DWF-7590R	DWF-7589series
	3616101600			DWF-8080R2	DWF-8089series
C29	3618800301	TUB INNER	1	PP	DWF-7589series
	3618801700	TUB		YUS 430D	DWF-8089series
C30	3618802000	TUB U	1	PP	DWF-8089series
C31	3617200200	FLANGE TUB	1	ADC 12	
C32	3612500100	GUIDE FILTER	1	PP	DWF-7589series
	3612502200	GUIDE FILTER AS		DWF-8080R2	DWF-8089series

2. DWF-9289, DWF-1089

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
A01	3611611400	DECORATOR PANEL F	1	PC FILM 0.188T	
A02	3614215300	PANEL F	1	ABS	
A03	PRPSSWN500	P.C.B ASS¡Ÿ	1	DWF-1089	NON-PUMP
	PRPSSWN800			DWF-1089CTE	NON-PUMP
	PRPSSWN900			DWF-1089PT	PUMP
A04	3614502100	PLATE T	1	ABS	
A05	3610906700	CAP	2	ABS	
A06	3616001200	SPECIAL BOLT	2	T1 TRS 5x73	
A07	3610031411	BUBBLE PUMP ASS¡Ÿ	1	AC 110-130V/60Hz	
	3610014711			AC 220-240V/50Hz	
	3610031401			AC 220V/60Hz	
A08	3614201000	PANEL B	1	ABS	
	3614201540			ABS	SINGLE VALVE
A09	3610902600	CAP REAR	2	CR	
A10	3611105400	CASE DETERGENT	1	ABS	
A11	3612300110	GASKET VALVE	2	PVC-S	1EA;SINGLE VALVE
A12	5EP1048010	TRANS POWER	1	T5-V1 (AC 110-130V)	
	5EP1048020			T5-V1F(AC 110-130V)	FUSE
	5EP1048030			T5-V2 (AC 220-240V)	
	5EP1048040			T5-V2F(AC 220-240V)	FUSE
A13	3615103500	SPRING	1	SUS 304 D=2.0	RIGHT
A14	3612900400	HINGE LEFT	1	POLYACETAL	
A15	3612900300	HINGE RIGHT	1	POLYACETAL	
A16	3615103600	SPRING	1	SUS 304 D=2.0	LEFT
A17	3619007800	SWITCH DOOR AS	1	DWDS-01	
A18	3610400800	BASE DETERGENT	1	PP	
	3610400820			PP	SINGLE VALVE
A19	3619006710	SWITCH SAFETY	1	DC 15V 10mA	
A20	3611405910	COVER R	1	ABS	RIGHT
A21	3610903000	CAP DOOR AS	2	80¡Ÿ, 88¡Ÿ	
A22	3619005110	SWITCH PRESSURE	1	KANBAYASHI(PS-D7)	
A23	3611716800	DOOR F	1	ABS	
A24	3611716900	DOOR B	1	ABS	
A25	3612602600	HANDLE DOOR	1	ABS	

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
A26	3611521700	CUSHION DOOR	4	CR	
A27	3611406010	COVER L	1	ABS	LEFT
A28	7121401608	SCREW	8	T2S PAN 4x16 SUS	
A29	3612725100	HARNESS ASS¡Ÿ	1	NON-PUMP	
	3612725110			PUMP	
	3612725120			NON-PUMP, SINGLE VALVE	
A30	3615403510	VALVE INLET COLD	1	AC 110-130V/60Hz	
	3615403710			AC 220-240V/50Hz	
	3615402010			AC 220V/60Hz	
A31	3615403630	VALVE INLET HOT	1	AC 110-130V/60Hz	0EA;SINGLE VALVE
	3615403830			AC 220-240V/50Hz	0EA;SINGLE VALVE
	3615402130			AC 220V/60Hz	0EA;SINGLE VALVE
A32	7121301208	SCREW	2	T2S TRS 3x12 SUS	
B01	3612200200	FRAME T	1	PP	
B02	3610806900	CABINET AS	1	PAINTING	
B03	3610301000	BASE U	1	PP	NON-PUMP
	3610303610			PP	PUMP
B04	3610901800	CAP LEG	1	ABS(RIGHT)	NON-PUMP
	3610901700		1	ABS(LEFT)	NON-PUMP
	3610904100		2	ABS	PUMP
B05	3617702000	LEG ADJUST	2	PP	NON-PUMP
	3610009100	LEG ADJUST AS	2	DWF-7590R	PUMP
B06	3612100300	FOOT	2	PP	NON-PUMP
B07	4509D10020	FOOT	2	RUBBER BUTYL	NON-PUMP
	610017400	ASS¡Ÿ LEG FIX	2	DWF-7590R	PUMP
B08	4509L03031	COVER DRAIN HOLE	1	PE-HD	NON-PUMP
B09	3610076130	ASSY CONDENSER	1	54.0¥F+60¥H, L=470	110V
	3610076230			41.6¥F+60¥H, L=470	127V
	3610032630			13.5¥F+60¥H, L=470	220V
	3610031930			12.5¥F+60¥H, L=470	240V
B10	3612600700	HANDLE CABINET	2	PE-HD	
B11	3610068700	ASSY EARTH	1	50/0.18 GREEN ST710480-2	
B12	3614502000	PLATE LOWER	1	PP	
B13	3611402800	COVER BACK	1	PP	
B14	3614502200	PLATE UPPER	1	PP	

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
B15	4509M56000	HOSE DRAIN	1	L=930mm	NON-PUMP
	3613203101	HOSE AS	1	DWF-5230PN	PUMP
B16	3612502300	GUIDE DRAIN HOSE	1	PP	PUMP
B17	4501F06120	CLAMP	1	SWPA2 ZN8-C	NON-PUMP
	3611200200	CLAMP B	1	SW D2.6 ZN8-C	PUMP
B18	3618703700	TERMINAL PUMP	1	250V/1A	PUMP
	618703720			125V/3.15A	PUMP
B19	3611405320	COVER PUMP	1	PP	PUMP
B20	7122501611	SCREW TAPPING	3	T2 TRS 5x16 MFZN	PUMP
B21	3963220330	MOTOR SHADED POLE	1	AC 110V/60Hz	PUMP
	3963821530			AC 120V/60Hz	PUMP
	3963322730			AC 220V/60Hz	PUMP
	3963513430			AC 220-240V/50Hz	PUMP
B22	3611901530	FILTER AS	1	DWF-5590DPNF, E-TYPE	PUMP
B23	3618912600	UNIT FUSE FILTER	1	AC 250V/4A, FERRITE	
	3618912630			AC 250V/5A, FERRITE	TUV
	3618912610			AC 250V/8A, FERRITE	
B24	3611301300	POWER CORD AS	1	3x0.75, 300x2, 300-RTML	ITALIAN 3PIN
	4508B81001			3x0.75, 300x2, 300-RTML	CP-2PIN
	450E181000			3x0.75, 300x2, 300-RTML	3-WIRE
	WAK42H762-			A VCTFK 2x0.75, 2.3M	FLAT 2PIN
	450KA81003			3x0.75, 300x2, 300-RTML	EUROPE-2PIN
C01	3618101400	NOZZLE BODY	1	PP	
C02	4509M83030	COVER TUB O	1	PP	
C03	3610065800	SUSPENSION AS(A)	2	DWF-9290RD	
C04	3610065900	SUSPENSION AS(B)	2	DWF-9290RD	
C05	4509M83012	TUB O	1	PP	
C06	4509M06010	HOSE OVERFLOW	1	PE-LD	NON-PUMP
	3613205400			FRPP	PUMP
C07	4509K78000	VALVE DRAIN AS	1	NON-VE	NON-PUMP
	3617100510	ELBOW DRAIN	1	PP	PUMP
C08	450ED45030	MOTOR SYNCHRONOUS	1	AC 110-130V/60Hz	NON-PUMP
	3966320220			AC 220V/60Hz	NON-PUMP
	3966010130			AC 220-240V/50Hz	NON-PUMP
	450ED45040			AC 110-130V/60Hz	PUMP

NO	PART CODE	PARTS NAME	EA	DESCRIPTION	REMARK
	3966320240			AC 220V/60Hz	PUMP
	3966010140			AC 220-240V/50Hz	PUMP
C09	4509M34010	BASE	1	SECEN 2.0Tx410x385	
C10	4500D08180	CLAMP	1	SWC	
C11	4500D08170	HOSE	0.36	ID=8.0, OD=12.0	
C12	3611502800	CUSHION DOWN	2	POM H=18mm	
C13	3964220400	MOTOR CONDENSER	1	AC 110V/60Hz	F34-C
	3964820510			AC 127V/60Hz	F36-C
	3610019700			AC 220/60Hz	F3A-C
	3964310510			AC 220V/50Hz	F32-1C
	3964610310			AC 240V/50Hz	F33-1C
C14	3611502000	CUSHION UPPER	2	POM	
C15	3618401400	PULLEY MOTOR AS	1	ADC-12, DS=10, DP=48.5	60Hz
	3618401420			ADC-12, DS=10, DP=53.0	50Hz
C16	3613206700	HOSE DRAIN AS	1	PE-LD/EVA, L=452	NON-PUMP
	3613212100	HOSE DRAIN I	1	PE-LD/EVA, L=184	PUMP
C17	3617304600	GEAR MECHAISM	1	GM-9289	
C18	3618300100	PLATE GEAR PROTECTOR	1	SBHG 1.6T	
C19	3616100600	BALANCER WEIGHT	1	FC-20, 3550Gr	
C20	4507D34020	BELT V	1	M20	60Hz
	3616500500			M20.5	50Hz
C21	3610906200	CAP PULSATOR	1	PP	
C22	4505E3203A	SC PULSATOR FIX AS	1	6x26.5 O-RING+SILOCK	
C23	3610906400	CAP	1	PP	
C24	3610085500	ASS¡Ÿ FILTER	1	PP(NYLON 74x130)	
C25	3619702820	PULSATOR AS	1	PULSATOR+INSERT	
C26	4509G83081	NUT-SPIN SHAFT	1	ZDC2 CU, NI COATING	
C27	4509L83070	SPECIAL WASHER	1	SUS304 T2.0 PI44	
C28	4509M30000	BALANCER AS	1	DWF-8088T	DWF-9289series
	3616101500			DWF-1080R2	DWF-1089series
C29	4509M05010	TUB INNER	1	PP	DWF-9289series
	3618801600	TUB		YUS 430D	DWF-1089series
C30	3618801900	TUB U	1	FRPP	DWF-1089series
C31	3617200200	FLANGE TUB	1	ADC 12	
C32	4509M05031	GUIDE FILTER	1	PP	DWF-9289series
	3612501800	GUIDE FILTER AS		DWF-1080R2	DWF-1089series